

NEW SPECIES OF AMERICAN BARK BEETLES (SCOLYTIDAE: COLEOPTERA)¹

by

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ABSTRACT

The following 156 species of American Scolytidae are described as new to science: *Cnesinus reticulatus* (Venezuela), *C. beaveri* (Brazil), *C. teretis* (Venezuela), *C. alienus* (Venezuela), *C. deperditus* (Colombia), *C. fulgens* (Venezuela), *C. fulgidus* (Colombia), *C. lucaris* (Venezuela), *C. triangularis* (Colombia), *C. brighti* (Mexico), *C. coracinus* (Mexico), *Bothrosternus lucidus* (Brazil), *Hylastes niger* (Mexico), *Xylechinus mexicanus* (Mexico), *Phloeotribus nanus* (Brazil), *Chramesus corniger* (Mexico), *Ch. disparilis* (Mexico), *Ch. variabilis* (Mexico), *Ch. microporosus* (Mexico), *Ch. aquilus* (Mexico), *Ch. wisteriae* (Mississippi), *Ch. marginatus* (Mexico), *Carphoborus piceae* (Oregon), *Carphobius cupressi* (Guatemala), *Cladotonus atrocis* (Brazil), *Scolytodes canalis* (Mexico), *S. costabilis* (Mexico), *Pseudothysanoes contrarius* (Mexico), *P. recavus* (Mexico), *Thysanoes granulifer* (Mexico), *Micracisella mimetica* (Mexico), *M. ocellata* (Mexico), *Hyllocurus rivalis* (Mexico), *H. binodatus* (Mississippi), *Cryphalomorphus parvatus* (Honduras, Costa Rica), *Cr. setifer* (Guatemala), *Cr. hirtus* (Mexico), *Cr. rusticus* (Mexico), *Cr. trichis* (Mexico), *Hypothenemus apicalis* (Mexico), *Hyl. indigenus* (Mexico), *Hyl. trivialis* (Costa Rica, Panama, Venezuela), *Hyl. dolosus* (Costa Rica), *Hyl. solocis* (Mexico), *Hyl. vesculus* (Mexico), *Hyl. suspectus* (Costa Rica, Panama, Venezuela), *Periocryphalus sobrinus* (Brazil), *Dendrocranus limatus* (Venezuela), *D. reditus* (Venezuela), *D. conditus* (Venezuela), *D. consimilis* (Mexico), *D. vinealis* (Honduras), *D. vicinalis* (Costa Rica), *D. securus* (Costa Rica), *D. fulgidus* (Panama), *D. vicinus* (Honduras), *D. rudis* (Mexico), *D. confinis* (Panama), *Gnathophthorus artus* (Brazil), *Dryocoetoides verrucosus* (Venezuela), *Dr. pilcatus* (Venezuela), *Dr. velutinus* (Venezuela), *Dr. rusticus* (Venezuela), *Dr. severus* (Venezuela), *Dr. insculptus* (Colombia), *Dr. indolatus* (Venezuela), *Sampsonius expulsus* (Colombia), *Sam. detractus* (Panama), *Sam. usurpatus* (Costa Rica), *Xyleborus pristis* (Costa Rica), *X. micarius* (Costa Rica), *X. bicornutus* (Venezuela), *X. crinitulus* (Venezuela), *X. pandulus* (Costa Rica, Panama), *X. varulus* (Venezuela), *X. palatus* (Mexico), *X. exutus* (Costa Rica), *X. rusticus* (Mexico), *X. ocellatus* (Colombia), *X. opimus* (Florida), *X. lacunatus* (Costa Rica), *X. meridensis* (Venezuela), *X. acinis* (Panama), *X. dissimulatus* (Costa Rica), *X. concentus* (Costa Rica, Venezuela), *X. tribulatus* (Costa Rica), *X. vismiae* (Costa Rica), *X. demissus* (Costa Rica), *X. meritus* (Costa Rica), *X. prolatus* (Costa Rica), *X. dissidens* (Mexico), *Xyleborinus dirus* (Costa Rica), *Xy. tribulosus* (Panama), *Xy. protinus* (Costa Rica), *Xy. celatus* (Colombia), *Araptus insinuatus* (Guatemala), *A. interjectus* (Guatemala), *A. accinctus* (Mexico), *A. delicatus* (Mexico), *A. genialis* (Guatemala), *A. dentifrons* (Mexico), *A. facetus* (Costa Rica), *A. cuspidus* (Mexico), *A. placatus* (Mexico), *A. decorus* (Costa Rica), *A. blanditus* (Mexico), *A. medialis* (Costa Rica), *A. conditus* (Costa Rica), *A. frugalis* (Costa Rica), *A. laudatus* (Costa Rica), *A. vesculus* (Costa Rica), *A. exigialis* (Panama), *A. refertus* (Guatemala), *A. trepidus* (Guatemala), *A. frontalis* (Guatemala), *A. nigrellus* (Costa Rica), *A. vinnulus* (Costa Rica), *A. furvus* (Panama), *A. fuvescens* (Guatemala), *A. lepidus* (Costa Rica), *A. mendicus* (Costa Rica), *A. nanulus* (Mexico), *A. festivus* (Mexico), *Pseudopityophthorus festivus* (Mexico), *Gnathotrichus obscurus* (Mexico), *G. omisus* (Costa Rica), *Gnathotrupes dilutus* (Costa Rica), *Gp. concentus* (Costa Rica), *Tricolus simplicis* (Guatemala), *T. inornatus* (Costa Rica), *T. inaffectedus* (Costa Rica), *T. cecropii* (Costa Rica), *T. intrusus* (Venezuela), *T. ardis* (Costa Rica, Panama), *T. parsus* (Costa Rica), *T. rufithorax* (Costa Rica), *T. badius* (Costa Rica, Panama), *T. partilis* (Costa Rica), *T. fenoris* (Costa Rica), *T. frontalis* (Mexico), *T. capitalis* (Panama), *T. naevus* (Costa Rica), *T.*

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scitulus (Costa Rica, Panama), *T. peltatus* (Panama, Costa Rica), *T. aciculatus* (Mexico), *T. bicolor* (Costa Rica), *T. amplus* (Mexico), *Amphicranus mirandus* (Costa Rica), *Am. tornatilis* (Costa Rica), *Am. macellus* (Costa Rica), *Am. spinescens* (Costa Rica), *Am. spinosus* (Costa

Rica), *Am. mucronatus* (Panama), *Am. acus* (Venezuela), *Paracorthylus mutilus* (Panama), and *Par. concisus* (Costa Rica). New subspecies include *Ips borealis lanieri* (Colorado, South Dakota), and *X. sharpi lenis* (Mexico).

INTRODUCTION

A large number of species new to science were discovered during the preparation of a monograph of the Scolytidae of North and Central America. Since it will be several years before the monograph is concluded, the new names are being published in order to stabilize nomenclature and to facilitate identification. On the following pages 157 species and 2 subspecies are described as new to science. The new species represent the following genera: *Cnesinus* (11), *Bothrosternus* (1), *Hylastes* (1), *Xylechinus* (1), *Phloeotribus* (1), *Chramesus* (7), *Carphoborus* (1), *Carphobius* (1), *Cladoctonus* (1), *Scolytodes* (2), *Pseudothysanoes* (2), *Thysanoes* (1), *Micracisella* (2), *Hyllocurus* (2), *Cryphalomorphus* (5), *Hypothenemus* (7), *Pericryphalus* (1), *Dendrocranulus* (11), *Gnathophthorus* (1), *Dryocoetoides* (7), *Sampsonius* (3),

Xyleborus (22), *Xyleborinus* (4), *Araptus* (28), *Pseudopityophthorus* (1), *Gnathotrichus* (2), *Gnathotrupes* (2), *Tricolus* (19), *Amphicranus* (7), and *Paracorthylus* (2). One new subspecies in *Ips* and one in *Xyleborus* are also named.

The new species are from the following areas: United States (4), Mexico (42), Guatemala (10), Honduras (2), Costa Rica (45), Panama (10), Colombia (7), Venezuela (20), and Brazil (6). In addition, one species each also occurred in the following combinations of countries: Honduras/Costa Rica, Costa Rica/Venezuela. Two species are from Costa Rica/Panama/Venezuela; four are from Costa Rica/Panama.

Illustrations, keys, and supplemental taxonomic notes useful in identifying these species will be presented in the monograph.

SYSTEMATIC SECTION

Cnesinus reticulatus, n. sp.

This species is distinguished from the very closely related *retifer* Wood by the slightly larger size, by the much more coarsely punctured pronotal disc, and by the slightly shorter declivital setae.

FEMALE.—Length 2.0 mm (paratype 1.9 mm), 2.5 times as long as wide; color very dark brown.

As in *retifer* except punctures on posterior third of pronotum at least twice as wide, interspaces between punctures less than half as wide as a puncture, punctures reduced in size anteriorly but in all areas much larger than in *retifer*. Interstitial setae on declivity slightly finer and shorter than in *retifer*.

TYPE LOCALITY.—Thirty km E Palmar, Bolivar, Venezuela.

TYPE MATERIAL.—The female holotype and one female paratype were collected at the type locality on 12-VI-70, 200 m, No. 529, from *Vismia cayennensis*, by S. L. Wood.

The holotype and paratype are in my collection.

Cnesinus beaveri, n. sp.

This species is distinguished from the allied *blackmani* Schedl by the smaller size, by the more widely separated eyes and more broadly convex frons, by the much more elongate, strigose pronotal punctures, and by the finer, more widely spaced elytral vestiture.

FEMALE.—Length 1.4 mm (paratypes 1.35-1.45 mm), 2.7 times as long as wide; color dark brown.

Frons evenly convex above shallow, transverse impression at level of antennal bases; surface strongly reticulate, with very fine, moderately sparse, somewhat obscure punctures; vestiture of sparse, short hair; eyes separated by 2.0 times width of an eye.

Pronotum 1.1 times as long as wide; outline as in *blackmani*; surface smooth, shining, punctures fine and longitudinally striate, striations

about 2-8 or more times as long as wide, often longitudinally confluent. Vestiture confined to anterior third, of course, short, rather sparse setae.

Elytra 1.8 times as long as wide, 1.9 times as long as pronotum; sides almost straight and parallel on slightly less than basal three-fourths, rather narrowly rounded behind; anterior margins narrowly elevated, crest shallowly marked into separate crenulations, no submarginal crenulations; striae 1 moderately, others weakly impressed, punctures rather coarse, distinctly impressed; interstriae distinctly wider than striae, shining, almost smooth, but with short, obscure, subtransverse lines indicated, punctures fine, shallow, uniseriate, close. Declivity steep, convex; striae 1 moderately, others weakly impressed, impression narrower than punctures; interstriae 1 distinctly, others weakly convex. Vestiture largely confined to declivity; consisting of slender interstitial bristles, each with its apical third apparently flattened; bristles two-thirds as long as distance between rows, spaced within a row by length of a bristle.

TYPE LOCALITY.—About 260 km N Xavantina, Mato Grosso, Brazil (12°49' S 51°46' W).

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 1-XII-68, No. F40, by R. A. Beaver; one female paratype bears the same data except 13-X-68, No. B105; and one female paratype the same data except 26-XI-68, No. D71G.

The holotype and one paratype are in the British Museum (Natural History), two paratypes are in the Museu de Zoologia, Universidade de São Paulo, and two paratypes are in my collection.

Cnesinus teretis, n. sp.

This species is distinguished from the allied *blackmani* Schedl by the smaller size, by the larger eyes, by the different frontal sculpture in both sexes, and by the less strongly impressed striae with smaller striae punctures.

FEMALE.—Length 1.5 mm (paratypes 1.3-1.5 mm), 2.7 times as long as wide; color dark brown, pronotum almost black.

Frons very narrow, weakly convex from vertex to epistoma, median two-thirds on lower half a slightly elevated plateau, this area to vertex smooth, polished and entirely devoid of punctures or setae; lateral areas below obscurely reticulate, with moderately abundant, coarse, short setae, a row of setae continued along me-

dian margin of eye almost to narrowest point between eyes; eyes separated by less than half greatest width of eye, eyes very large, coarsely faceted.

Pronotum 1.15 times as long as wide; as in *blackmani* except sides more strongly constricted on basal half, punctures slightly smaller and more elongate. Vestiture confined to anterior third, of fine, short, recumbent hair.

Elytra 1.6 times as long as wide, 1.6 times as long as pronotum; outline as in *blackmani*; striae 1 moderately, others feebly impressed, punctures small, shallow; interstriae twice as wide as striae, almost flat, smooth, shining, punctures minute, uniseriate, those bearing setae usually minutely granulate. Declivity steep, convex; striae 1 impressed; interstriae 1 narrowly convex; interstitial punctures replaced by small, rounded, setiferous granules. Vestiture confined to declivity, discal interstriae and posterior half of 3, 5, and 7; consisting of coarse bristles up to slightly less than twice as long as distance between rows, only slightly longer than distance between bristles within a row.

MALE.—Similar to female except frons weakly, transversely impressed on lower half more strongly convex on upper half, surface reticulate and finely, sparsely punctured, vestiture more generally distributed; disc with rows of very small, fine interstitial setae.

TYPE LOCALITY.—Seven km NW Socopo, Barinas, Venezuela.

TYPE MATERIAL.—The female holotype, male allotype, and 35 paratypes were taken at the type locality on 13-II-70, 200 m, No. 322, from *Nectandra* twigs, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Cnesinus alienus, n. sp.

This species is distinguished from the distantly allied *nitidus* Eggers by the very differently sculptured frons, by the larger, shallow pronotal punctures, by the very shallow, smaller striae punctures, and by the much more deeply sulcate elytral declivity.

MALE.—Length 2.3 mm (allotype 2.5 mm), 2.7 times as long as wide; color dark brown, almost black.

Frons basically convex with central third rather deeply concave, lower margin of concavity at level just above antennal insertion armed by a pair of small, pointed, rather widely separated denticles; upper margin of concavity with a median prominence; surface reticulate, almost

rugose, a few small granules in lateral and lower areas, punctures minute, obscure; vestiture of fine, sparse hair.

Pronotum 1.2 times as long as wide; outline as in *nitidus*; surface mostly dull, obscurely reticulate to minutely, longitudinally etched, punctures rather small, two to three times as long as wide, larger than in *nitidus*. Glabrous except for a very few setae on anterior fourth.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; outline as in *nitidus*; striae feebly impressed, punctures small, shallow; interstriae about three times as wide as striae, almost smooth, subshining, punctures obsolete. Declivity steep, rather broadly sulcate; strial punctures minute, distinct; sutural interstriae moderately elevated, 2 strongly, broadly impressed, 3 abruptly, moderately elevated on median side, devoid of granules, fine, uniseriate punctures distinct except on 2. Vestiture confined to declivity consisting of interstitial rows of rather short bristles.

FEMALE.—Similar to male except frontal depression less well developed, callus at upper margin of concavity not evident; minute, confused interstitial punctures indicated on disc.

TYPE LOCALITY.—Forty km SE Socopo, Barinas, Venezuela.

TYPE MATERIAL.—The male holotype and female allotype were taken at the type locality on 25-I-70, 150 m, No. 273, from a liana known locally as bejuco blanco, by S. L. Wood.

The holotype and allotype are in my collection.

Cnesinus deperditus, n. sp.

This species is distinguished from the allied *reticulatus* Chapuis by the smaller size, by the different frontal sculpture, by the very much more finely, obscurely punctured discal interstriae, and by the shorter, much less strongly impressed elytral declivity.

FEMALE.—Length 2.7 mm (paratype 2.5 mm), 2.6 times as long as wide; color very dark reddish brown.

Frons as in *reticulatus* except upper half much more strongly convex; transverse elevation just above epistoma unarmed, triangular patch of erect setae rather large, extending to deepest point in impression; lateral margins of frons abrupt but not acutely elevated.

Pronotum 1.1 times as long as wide; widest just behind middle, sides rather strongly arcuate, rather narrowly rounded in front; surface subshining, sculpture similar to but slightly

finer than in *reticulatus*, punctures rather shallow, moderately coarse, many or most at least partly, longitudinally confluent. Vestiture of moderately abundant, coarse, short setae.

Elytra 1.9 times as long as wide, 2.1 times as long as pronotum; sides almost straight and parallel on slightly less than basal three-fourths, rather broadly rounded behind; striae deeply, abruptly impressed, punctures rather obscurely indicated; interstriae about twice as wide as striae, evidently finely rugose, punctures fine, obscure, confused, rather abundant. Declivity steep, convex; striae narrower and less strongly impressed than on disc except 1 on right side wider, interstriae 1 on right side flattened; interstitial punctures largely replaced by fine granules.

TYPE LOCALITY.—Piedras Blancas, 10 km E Medellin, Antioquia, Colombia.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 15-VII-70, 2500 m, No. 685, *Quercus humboldti*, S. L. Wood.

The holotype and paratype are in my collection.

Cnesinus fulgens, n. sp.

This species is distinguished from the very closely related *niger* Wood by the larger size, by the slightly wider male epistomal elevation with much shorter setae, by the more finely punctured pronotum, by the slightly smaller, less deeply impressed strial punctures, and by the more deeply impressed declivital striae.

MALE.—Length 2.7 mm (paratypes 2.6-2.9 mm), 2.7 times as long as wide; color dark reddish brown.

Frons as in *niger* except epistomal elevation wider, nonpubescent area distinctly wider, setae on its upper portion about half as long.

Pronotum as in *niger* except punctures much smaller, more numerous, less strigose.

Elytra as in *niger* except strial punctures smaller, not as deep; interstriae more than twice as wide as striae, punctures confused; declivital interstriae 2 and 3 more strongly convex.

FEMALE.—Similar to male except epistomal elevation reduced to a transverse callus with one row of finer, longer setae on its upper margin.

TYPE LOCALITY.—La Carbonera Experimental Forest, 50 km (airline) NW Merida, Merida, Venezuela.

TYPE MATERIAL.—The male holotype, female allotype, and 25 paratypes were collected at the

type locality on 14-XI-69, 2500 m, No. 136, from *Rubus* sp., by S. L. Wood. Thirty-two paratypes are from La Mucuy Experimental Forest, 20 km NE Merida, Merida, Venezuela, 22-XII-69, 2500 m, No. 205, from *Rubus* sp., by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Cnesinus fulgidus, n. sp.

This species is distinguished from the closely allied *fulgens* Wood by the smaller size, by the sculpture of the male epistomal elevation, by the weakly impressed elytral striae, and by the feebly convex declivital striae.

MALE.—Length 1.2 mm (paratypes 2.1-2.4 mm), 2.6 times as long as wide; color dark reddish brown, pronotum often black.

Frons as in *fulgens* except median longitudinal axis of epistomal elevation half as great as transverse axis, its upper margin bearing a narrow band of very short setae similar to those in *fulgens*, glabrous area triangular, its surface strongly reticulate.

Pronotum as in *fulgens* except punctures more nearly oval, deeper.

Elytra as in *fulgens* except striae 1 moderately, others very weakly impressed, punctures small, moderately deep; interstriae flat, smooth, shining, twice as wide as striae, punctures minute, confused; declivity as in *fulgens* except striae 2 and 3 not impressed, interstriae feebly or not at all convex, 3 with a row of small, rounded granules; declivital vestiture distinctly longer.

FEMALE.—Similar to male except epistomal elevation reduced to a transverse callus with one row of longer setae on its upper margin.

TYPE LOCALITY.—Piedras Blancas, 10 km E Medellin, Antioquia, Colombia.

TYPE MATERIAL.—The male holotype, female allotype, and 57 paratypes were taken at the type locality on 15-VII-70, 2500 m, No. 654 and 685, from *Quereus humboldtii* twigs, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Cnesinus lucaris, n. sp.

This species is distinguished from the closely allied *perplexus* Wood by the much less extensive male epistomal elevation and smaller brush of epistomal setae, by the less coarsely sculptured pronotum, and by the much more slender elytral vestiture.

MALE.—Length 2.3 mm (paratypes 2.2-2.5 mm), 2.8 times as long as wide; color dark brown, elytra sometimes reddish brown, pronotum often almost black.

Frons essentially as in *perplexus* except epistomal elevation much smaller, occupying slightly more than median third, its longitudinal axis about equal in length to width of pedicel, its upper slope ornamented by about three rows of compressed bristles, these bristles covering a smaller area and finer than in *perplexus*.

Pronotum as in *perplexus* except grooves slightly narrower and longer, ridges not as strongly convex, finer. Vestiture finer than in *perplexus*.

Elytra as in *perplexus* except both ground cover and erect bristles much more slender, slightly longer on declivity.

FEMALE.—Similar to male except epistomal elevation smaller, its bristles finer, reduced to one row.

TYPE LOCALITY.—Merida, Merida, Venezuela.

TYPE MATERIAL.—The male holotype and five paratypes were taken at the type locality on 29-XII-69, 1700 m, No. 210, from a small liana, by S. L. Wood. The female allotype and 14 paratypes bear the same data except 22-XI-69, and either No. 7 from a twig, or No. 6 from *Vismia*; one paratype bears the same data except 8-XI-69, No. 119 from *Rubus*.

The holotype, allotype, and paratypes are in my collection.

Cnesinus triangularis, n. sp.

This species is distinguished from the closely related *gibbulus* Wood by the smaller average size, by the smaller female epistomal elevation with its setae less numerous and longer, by the less deeply impressed striae, by the much smaller interstitial punctures, and by the shorter, stouter declivital pubescence.

FEMALE.—Length 2.2 mm (paratypes 2.1-2.4 mm), 2.7 times as long as wide; color black.

Frons as in *gibbulus* except epistomal elevation smaller, triangular, epistomal margin of triangle almost straight, median angle of triangle about 60 degrees, bristles more slender, much longer; frons sparsely pubescent, particularly in lateral areas.

Pronotum as in *gibbulus*.

Elytra 1.9 times as long as wide; as in *gibbulus* except striae very weakly impressed, punctures small, deep; interstriae three times as wide as striae, shining, with a few very shallow, ob-

scure, transverse lines, punctures very fine, moderately confused on 2 and 3, almost uniseriate on others. Vestiture confined to declivity, consisting of stout bristles, each bristle very slightly longer than distance between rows.

MALE.—Similar to female except frontal elevation replaced by a small, low, transverse, epistomal callus, specialized bristles absent.

TYPE LOCALITY.—Piedras Blancas, 10 km E Medellin, Antioquia, Colombia.

TYPE MATERIAL.—The female holotype, male allotype, and 12 paratypes were taken at the type locality on 15-VII-70, 2500 m, No. 656, from a twig of a shrub known locally as Uvo de Monte, by S. L. Wood. Eighty-eight paratypes bear the same data except No. 658, taken from a twig of a small tree known locally as Graptero, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Cnesinus brighti, n. sp.

This species is distinguished from *elegantis* Wood by the smaller size, by the smaller female epistomal tubercles, by the coarser frontal vestiture, by the coarser pronotal striations, by the fine hair covering the pronotum, by the less strongly impressed striae, and by the discal pubescence.

FEMALE.—Length 2.5 mm (paratypes 2.2-2.6 mm), 2.7 times as long as wide; color rather dark reddish brown.

Frons as in *elegantis* but with epistomal denticles much smaller and basally contiguous, vestiture stouter and slightly more abundant.

Pronotum 1.1 times as long as wide; striations coarser and wider than either *elegantis* or *coracinus*, punctures not evident. Vestiture of rather abundant, fine, short hair on disc, longer and coarser anteriorly.

Elytra 1.9 times as long as wide; as in *elegantis* except vestiture extends to base of disc, consisting of rather abundant, short, coarse, confused setae of about uniform length, not longer on declivity, each seta about equal in length to width of an interstriae.

MALE.—Similar to female except epistomal tubercles absent.

TYPE LOCALITY.—Nine miles (14 km) SE Teopisca on highway 24, Chiapas, Mexico.

TYPE MATERIAL.—The female holotype, male allotype and 65 paratypes were taken at the type locality on 14-V-69, by D. E. Bright. Three para-

types have identical data except they are 30-V-69; three paratypes are from Lagos des Colores, 17-V-69, D. E. Bright.

The holotype, allotype, and most paratypes are in the Canadian National Collection, some paratypes are in my collection.

Cnesinus coracinus, n. sp.

This species is distinguished from *elegantis* Wood by the smaller size, by the stouter body, by the finer, closer female epistomal tubercles, by the finer frontal vestiture, by the slightly coarser pronotal striation, by the coarser striae punctures, and by the shorter, stouter declivital setae.

FEMALE.—Length 2.2 mm (paratypes 2.1-2.3 mm), 2.5 times as long as wide; color black.

Frons as in *elegantis* except epistomal tubercles smaller, much closer, concavity not quite as deep, extending slightly nearer upper level of frons, surface obscurely punctured, vestiture finer, less abundant.

Pronotum 1.04 times as long as wide; much as in *elegantis* but with striations more distinctly punctured and wider.

Elytra 1.6 times as long as wide; striae punctures slightly larger and deeper than in *elegantis*, interstriae feebly convex; declivity less strongly impressed, interstriae each with a row of granules. Vestiture confined to declivity, consisting of sparse, short, ground vestiture of rather fine hair, and rows of interstitial bristles; each bristle about as long as distance between rows, more closely spaced within a row.

TYPE LOCALITY.—Five miles (8 km) S Simohovel, Chiapas, Mexico.

TYPE MATERIAL.—The female holotype and four female paratypes were taken at the type locality on 4-VII-69, by D. E. Bright.

The holotype and two paratypes are in the Canadian National Collection; two paratypes are in my collection.

Bothrosternus lucidus, n. sp.

The elytral declivity of this species has moderately long, uniseriate interstitial setae as described for *truncatus* Eichhoff; it differs, however, by the absence of a median frontal tubercle, by the pronotum being wider than long, by the smoother, more regularly punctured pronotum, and probably by other characters.

MALE.—Length 2.3 mm (paratypes 2.3-2.5 mm), 2.2 times as long as wide; color reddish brown.

Frons as in male *brevis* Eggers except upper area slightly more strongly convex, lower area less strongly, less extensively impressed, with no indication of a transverse callus, punctures smaller, less conspicuous; vestiture similar but coarser.

Pronotum 0.92 times as long as wide; outline as in *brevis* except more distinctly constricted on basal third; surface almost smooth, shining, feebly reticulate at base and in lateral areas; punctures small, close, moderately deep, round to oval; lateral margin with a fine, acutely elevated line. Glabrous. Lower three-fourths of anterior propleural area excavated and filled by a dense brush of white hair.

Elytra 1.4 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal three-fourths, abruptly rounded, somewhat narrowly rounded at apex; basal margins almost smooth, more distinctly elevated than in *brevis*; striae narrowly, distinctly impressed, punctures clearly, shallowly indicated; interstriae twice as wide as striae, almost flat, smooth except a few wrinkles on basal half, punctures fine, distinct, confused. Declivity steep, broadly convex; striae reticulate, distinctly wider than on disc, punctures larger, deeper; interstriae as wide as striae, reticulate, punctures replaced by small, shining, uniseriate granules. Vestiture abraded on disc; on declivity consisting of uniseriate interstitial rows of moderately long, rather stout bristles, each bristle as long as distance between rows, very slightly closer within a row.

FEMALE.—Similar to male except frontal impression not quite as deep or as extensive, a feeble, transverse, elevated line indicated on one specimen.

TYPE LOCALITY.—About 260 km N Xavantina, Mato Grosso, Brazil (12°49' S 51°46' W).

TYPE MATERIAL.—The male holotype, female allotype, and six paratypes were taken at the type locality, in 1968, by R. A. Beaver; the holotype and five paratypes were taken 18-XI-68, No. D06, the allotype on 24-IX-68, No. 173, and one paratype on 30-XI-68, No. D98.

The holotype, allotype, and one paratype are in the British Museum (Natural History), two paratypes are in the Museu de Zoologia, Universidade de São Paulo, and three paratypes are in my collection.

Hylastes niger, n. sp.

This species is distinguished from *mexicanus* Wood by the narrowly impressed declivital striae with the punctures much smaller, and by the

much more closely spaced granules on the declivital interstriae.

MALE.—Length 4.3 mm, 2.7 times as long as wide; color black.

Frons and pronotum as in *mexicanus* except frons less distinctly reticulate, pronotum with punctures distinctly smaller.

Elytra as in *mexicanus* except striae punctures much smaller, interstriae twice as wide as striae on disc, almost three times as wide on declivity; declivity not as steep; interstitial granules on declivity much more closely spaced, spaced by distances equal to less than half width of an interstriae.

FEMALE.—Similar to male except frons more finely punctured; anterior discal area of pronotum with punctures reduced to almost obsolete.

TYPE LOCALITY.—Thirty-one km (19 mi) E Tulancingo, Hidalgo, Mexico.

TYPE MATERIAL.—The male holotype and female allotype (damaged) were taken at the type locality on 10-VII-67, 2100 m, No. 185, from the same tunnel in a *Pinus* log 60 cm in diameter, by S. L. Wood.

The holotype and allotype are in my collection.

Xylechinus mexicanus, n. sp.

This species is distinguished from *marmoratus* Blandford by the more slender, more irregularly sculptured pronotum which lacks scalelike setae, by the slightly coarser striae punctures, and by the much more slender interstitial bristles.

MALE.—Length 1.9 mm (paratypes 1.6-1.9 mm), 2.7 times as long as wide; color brown, vestiture pale.

Frons as in *marmoratus* but broader, vestiture finer, without scales.

Pronotum 1.0 times as long as wide; about as in *marmoratus* but anterior constriction not as strong; surface shining, irregular throughout, punctures fine, shallow, most subvulvate. Vestiture of short, coarse hair of moderate abundance; scales absent.

Elytra 1.7 times as long as wide; as in *marmoratus* except bases of interstriae 2-5 each bearing 1-4 submarginal crenulations, striae punctures very slightly larger. Ground vestiture shorter than in *marmoratus*, apparently less abundant, much more slender on sutural interstriae than elsewhere; erect bristles slender, blunt or pointed, their length and spacing as in *marmoratus*.

FEMALE.—Similar to male except submarginal crenulations at bases of elytra mostly absent.

TYPE LOCALITY.—Yerba Buena, 20 mi (32 km) N Bochil, Chiapas, Mexico.

TYPE MATERIAL.—The male holotype, female allotype and nine paratypes were taken at the type locality on 21-V-69, 8000 feet elevation, by D. E. Bright.

The holotype, allotype, and five paratypes are in the Canadian National Collection, four paratypes are in my collection.

Phlocotribus nanus, n. sp.

This species superficially resembles *hystrix* Wood, although the relationship is remote. It differs from *hystrix* by the smaller size, by the subobsolete stria punctures, by the more abundant interstitial scales, and by the absence of spines and elevated areas on the elytral declivity.

MALE.—Length 1.4 mm (paratypes 1.4-1.6 mm), 1.8 times as long as wide; color yellowish brown.

Frons as in *hystrix* except surface sculpture finer, less regular. Antennae as in *hystrix*.

Pronotum 0.81 times as long as wide; outline about as in *hystrix*; surface shining, very densely, rather coarsely, deeply punctured, each puncture bearing a short, stout, subscalelike seta; anterolateral margin armed by about three small crenulations.

Elytra 1.1 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal half, broadly rounded behind; striae strongly impressed, their margins slightly beaded indicating positions of punctures, but punctures obsolete; interstriae twice as wide as striae, surface shining, finely punctate-granulate and with a median row of slightly larger granules. Declivity rather steep, broadly convex; interstriae slightly narrower and more convex than on disc; devoid of tubercles or other elevations. Vestiture confined to interstriae, consisting of a dense ground cover of very short, stout, subscalelike, pointed setae, each slightly longer than wide, and interstitial rows of slightly longer, similar setae; longer setae less than twice as long as ground cover, about four to six times as long as wide.

FEMALE.—Similar to male except broadly convex, more coarsely granulate-punctate, devoid of denticles; anterolateral areas of pronotum with about 20 small crenulations on each side.

TYPE LOCALITY.—About 260 km N Xavantina, Mato Grosso, Brazil (12°49' S 51°46' W).

TYPE MATERIAL.—The male holotype, female allotype, and eight paratypes were taken at the type locality, in 1968, by R. A. Beaver. The holotype was taken I-XII-68, No. C20, the allotype and one paratype I-XII-68, No. F27, two paratypes I-XI-68, No. F19, four paratypes I-XII-68, No. F26, and one paratype 28-IX-68, No. A07.

The holotype, allotype, and two paratypes are in the British Museum (Natural History), two paratypes are in Museu de Zoologia, Universidade de São Paulo, and four paratypes are in my collection.

Chramesus corniger, n. sp.

This species is unique in the genus. The male frons is very weakly impressed, the lateral margins are not elevated at all, the lower frons in the male bears a pair of large denticles near but not on the epistomal margin. The elytral ground vestiture is absent.

MALE.—Length 1.4 mm (paratypes 1.3-1.4 mm), 1.7 times as long as wide; color very dark brown, almost black, vestiture pale.

Frons very shallowly concave from epistoma almost to upper level of eyes, lateral margins rounded, not elevated; a pair of rather large tubercles just above epistomal margin; their bases separated by about one-third width of frons; surface subshining, finely rugulose, a few small, indistinct granules on upper half; vestiture of sparse, fine, inconspicuous hair. Antennal club moderately large.

Pronotum 0.80 times as long as wide; widest near base, sides arcuately converging to rather weak constriction just before rather narrowly rounded anterior margin; entire surface strongly reticulate; punctures small, widely spaced, those on anterior half granulate to very finely asperate. Vestiture of short, stout bristles of moderate abundance.

Elytra 1.1 times as long as wide; sides almost straight and parallel on slightly more than basal half, broadly rounded behind; basal margins of elytra each armed by about 15 crenulations, one submarginal crenulation on interstriae 2; striae feebly impressed, punctures moderately coarse, close; interstriae slightly wider than striae, uniseriately, finely granulate except slightly confused on 2, punctures not evident. Declivity rather steep, convex; sculpture about as on disc. Vestiture of interstitial rows of stout bristles, each 8-10 times as long as

wide, slightly shorter than distance between rows, slightly confused on discal interstriae 2.

FEMALE.—Similar to male except frons weakly convex, unarmed; pronotal granules smaller in median area, two or three of those on antero-lateral angles crenulate.

TYPE LOCALITY.—Lago Catemaco, Veracruz, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and six paratypes were taken at the type locality on 16-20-VI-69, by D. E. Bright.

The holotype, allotype, and three paratypes are in the Canadian National Collection; three paratypes are in my collection.

Chramesus disparilis, n. sp.

This species superficially resembles *acacicolens* Wood, but the male frons is entirely different; the elytral ground vestiture and erect bristles are broad. It is not closely related to any species from North or Central America.

MALE.—Length 1.6 mm (paratypes 1.4-1.7 mm), 1.9 times as long as wide; color dark brown, vestiture pale.

Frons very deeply, broadly concave from epistoma to slightly above eyes; lateral margins subacutely elevated, armed just above level of antennal insertion by a pair of low, blunt, subquadrate denticles having bases displaced mesad from crest of lateral margins; surface finely rugose-reticulate, shining; vestiture of sparse, minute hair in concavity, of a few stout setae of moderate length on margins. Antennal club small for this genus, apex narrowly rounded.

Pronotum 0.76 times as long as wide; widest at base, sides and anterior margin almost forming a semicircular arc, anterior constriction almost obsolete; surface finely reticulate, shining, small granules of moderate abundance extending from anterior margin to base. Vestiture rather abundant, short, scalelike, each scale about two to three times as long as wide.

Elytra 1.3 times as long as wide; sides almost straight and parallel on slightly more than basal half, rather broadly rounded behind; basal margins each armed by 13 crenulations, about six submarginal crenulations scattered from interstriae 2-4; striae distinctly, weakly impressed, punctures rather coarse, deep; interstriae slightly wider than striae, each with a uniseriate row of fine granules and minute, obscure punctures. Declivity rather steep, convex; as on disc except interstriae 2 on lower half devoid of granules and feebly impressed. Vestiture con-

sisting of ground cover of short, recumbent, interstitial scales, each scale about twice as long as wide; and interstitial rows of erect, scalelike bristles, each about six times as long as wide, each slightly more than half as long as distance between rows or between bristles within a row.

FEMALE.—Similar to male except frons feebly convex, lateral margins rounded and unarmed; scales in elytral ground cover only slightly longer than wide.

TYPE LOCALITY.—Lagos de Colores, Chiapas, Mexico.

TYPE MATERIAL.—The male holotype and 22 paratypes were taken at the type locality on 14-VI-69, from *Acacia*, by D. E. Bright. The female allotype and 25 paratypes are from seven miles (11 km) SE Teopisca, on highway 24, Chiapas, Mexico, 31-V-69, from *Acacia*, by D. E. Bright.

The holotype, allotype, and most of the paratypes are in the Canadian National Collection; the other paratypes are in my collection.

Chramesus variabilis, n. sp.

This species is distinguished from *vincalis* Wood by the more extensive, more deeply impressed male frons, with lateral armature higher, by the smaller pronotal punctures, by the larger scales in the elytral ground vestiture, and by the much stouter erect interstitial bristles.

MALE.—Length 1.9 mm (paratypes 1.8-2.3 mm), 1.6 times as long as wide; color dark brown, vestiture forming a slightly variegated pattern in most specimens.

Frons broadly, deeply concave from epistoma to slightly above eyes, lateral margins acutely rather strongly elevated, armed just above level of antennal insertion by a large triangular dentition; surface reticulate, epistoma and large pre-mandibular lobe smooth, shining; vestiture of sparse, minute hair. Antennal club large.

Pronotum 0.74 times as long as wide; outline as in *disparilis*; surface finely reticulate, punctures small, shallow, close, spaced by distances equal to diameter of a puncture, devoid of granules. Vestiture of short hair and equal numbers of scales, each scale four to six times as long as wide; central and anterior setae darker.

Elytra 1.05 times as long as wide; sides almost straight and parallel on basal half, broadly rounded behind; twelve pairs of crenulations on basal margins, six submarginal crenulations scattered on bases of interstriae 2-4; striae distinctly impressed, punctures small, rather

shallow; interstriae three times as wide as striae, smooth, bristle-bearing punctures small, almost uniseriate, punctures bearing ground scales minute. Declivity rather steep, convex; sculpture as on disc. Vestiture of ground cover of small scales, each scale one to two times as long as wide; and rows of erect bristles, each bristle about twice as long as ground cover, half as long as distance between rows, as long as distance between bristles within a row, each bristle about six times as long as wide; in an obscure variegated pattern.

FEMALE.—Similar to male except frons weakly convex, lateral margins rounded, unarmed, surface rugose-reticulate; anterolateral areas of pronotum sparsely asperate.

TYPE LOCALITY.—Lago Catemaco, Veracruz, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 24 paratypes were taken at the type locality on 16-20-VI-69, by D. E. Bright.

The holotype, allotype, and 15 paratypes are in the Canadian National Collection; nine paratypes are in my collection.

Chramesus microporosus, n. sp.

This species is distinguished from *periosus* Wood by the deeper male frontal concavity which extends slightly above the upper level of the eyes, by the finer pronotal punctures and granules, by fewer submarginal crenulations on the elytral bases, by the minute stria punctures, and by the more slender, nonsubplumose scales of the elytral ground vestiture.

MALE.—Length 2.2 mm (paratypes 1.8-2.4 mm), 1.6 times as long as wide; color very dark reddish brown.

Frons as in *periosus* except concavity extending slightly above eyes, much deeper on upper half. Pronotum as in *periosus* except punctures less than one-third as large, granules much smaller and less numerous.

Elytra as in *periosus* except submarginal crenulations near base of elytra about half as numerous, stria puncture very minute to entirely obsolete, striae smooth, shining, interstitial punctures also minute; scales in ground cover about four times as long as wide, not subplumose; bristles about three times as long as ground cover, scalelike, each about six to eight times as long as wide.

FEMALE.—Similar to male except frons convex, foveate at center; lateral areas of pronotum asperate; stria puncture very small, but dis-

tinctly larger; interstriae each with a row of moderately large, pointed tubercles.

TYPE LOCALITY.—El Sumidera, 15 miles (24 km) N Tuxtla Gutierrez, Chiapas, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 15 paratypes were taken at the type locality on 7-VI-69, by D. E. Bright.

The holotype, allotype, and nine paratypes are in the Canadian National Collection; six paratypes are in my collection.

Chramesus aquilus, n. sp.

Among Central American forms, this species is most nearly allied to *demissus* Wood, but it is distinguished by the more deeply concave male frons with the lateral margins more strongly elevated, by the more distinctly punctured pronotal disc, by the more rounded interstitial tubercles, and by the different elytral vestiture.

MALE.—Length 1.8 mm (paratypes 1.5-1.8 mm), 1.5 times as long as wide; color black, vestiture pale.

Frons broadly, rather deeply concave from epistoma to slightly below upper level of eyes, lateral margins acutely, rather strongly elevated with highest point just below level of antennal insertion, devoid of denticles; surface strongly reticulate, smooth on epistoma, minute, obscure punctures on upper half of concavity; vestiture inconspicuous. Antennal club large.

Pronotum as in *demissus* except granules smaller, posterior fourth in median area with sparse, shallow, moderately large punctures. Vestiture slightly more slender than in *demissus*.

Elytra 1.02 times as long as wide; sides almost straight and parallel on slightly more than basal half, broadly rounded behind; basal margins each armed by 11 crenulations, one or more submarginal crenulations on interstriae 2-5; striae strongly impressed, punctures moderately coarse, deep; interstriae about one and one-half times as wide as striae, moderately convex, smooth, with rows of rather large, narrowly rounded tubercles, tubercles somewhat confused on 2 and 3. Declivity rather steep, convex; sculpture about as on disc. Vestiture of ground cover of rows of scales on both margins of each interstriae, each scale up to twice as long as wide; and erect bristles in interstitial rows except moderately confused on 2 and 3 on disc, each bristle two-thirds as long as distance between rows, spaced within a row by length of a bristle, each about eight times as long as wide, equal in width to scales in ground cover.

FEMALE.—Similar to male except frons weakly convex, lateral margins rounded; pronotal granules absent, entire surface with shallow, sparse punctures of moderate size.

TYPE LOCALITY.—Eight miles (13 km) N Ocasingo, Chiapas, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 19 paratypes were taken at the type locality on 2-VI-69, by D. E. Bright.

The holotype, allotype, and ten paratypes are in the Canadian National Collection; nine paratypes are in my collection.

Chramesus wisteriae, n. sp.

This species is distinguished from *acacicolens* Wood by the more coarsely, more deeply punctured pronotum, by the more deeply impressed striae and smaller strial punctures, and by the slightly more slender, erect interstitial bristles.

MALE.—Length 1.8 mm (paratypes 1.6-1.8 mm), 1.6 times as long as wide; color very dark brown, vestiture pale.

Frons as in *acacicolens* except surface with sparse, minutely granulate, small, obscure punctures. Pronotum as in *acacicolens* except granules evidently smaller, less conspicuous, punctures much larger, deeper, closer, punctures discernible from base to anterior fourth; vestiture slightly more abundant.

Elytra 1.2 times as long as wide; as in *acacicolens* except striae weakly impressed, punctures larger, more distinctly impressed; interstriae slightly less than twice as wide as striae; erect interstitial bristles very slightly shorter and more slender than in *acacicolens*, each bristle six to eight times as long as wide, half as long as distance between rows.

FEMALE.—Similar to male except frons weakly convex, lateral margins not elevated or armed, foveate at center; pronotal asperities in lateral areas larger; interstitial tubercles distinctly larger.

TYPE LOCALITY.—Bay St. Louis, Mississippi.

TYPE MATERIAL.—The male holotype, female allotype, and three paratypes were taken at the type locality on 12-V-45, in dead *Wisteria* stems, No. 45-9773, presumably by W. H. Anderson.

The holotype, allotype, and one paratype are in the U.S. National Museum; two paratypes are in my collection.

Chramesus marginatus, n. sp.

This species is distinguished from *setosus* Wood by the larger size, by the much more finely sculptured pronotum, and by the more nearly hairlike elytral setae.

MALE.—Length 2.5 mm (paratype 2.5 mm), 1.65 times as long as wide; color dark brown, vestiture pale.

Frons similar to *setosus* but not as deeply concave on upper half, punctures on upper half slightly larger. Pronotum outline as in *setosus*; surface reticulate, a few asperities in lateral areas, a few minute granules on median part of anterior third, punctures small, moderately close, very shallow on anterior half, somewhat deeper in posterior area. Vestiture of short, slender bristles of moderate abundance.

Elytra outline and basal armature as in *setosus*; striae distinctly impressed, punctures very small, moderately deep; interstriae at least four times as wide as striae, weakly convex, smooth, with a central row of fine granules and a row of minute punctures on each margin. Declivity rather steep, broadly convex; sculpture as on disc. Vestiture of sparse, short, erect, slender, bristlelike ground cover in approximate rows on margins of interstriae, and rows of interstitial bristles arising from granules, each bristle twice as long as ground cover, two-thirds as long as distance between rows, as long as distance between setae within a row.

TYPE LOCALITY.—Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and one male paratype were intercepted at Brownsville, Texas, on 26-I-49, No. 67333, in dead wood 49-2948, by D. J. Smith, in material coming from Mexico.

The holotype and allotype are in the U.S. National Museum; the paratype is in my collection.

Carphoborus piceae, n. sp.

This species is distinguished from the closely allied *perplexus* Wood by the absence of granules on discal interstriae 3, by the less strongly elevated, more finely dentate alternate declivital interstriae, and by the smaller, flattened area on the female frons.

MALE.—Length 1.7 mm, 2.2 times as long as wide; color almost black.

Frons as in *perplexus*. Antennal club 1.3 times as long as wide. Pronotum and elytral disc as in *perplexus* except discal interstriae 3 devoid of granules; elytral declivity as in *per-*

plexus except alternate interstriae less strongly elevated and more finely dentate, interstriae 2 wider.

FEMALE.—Similar to male except frons flattened on little more than median half from epistoma to very slightly above eyes, epistomal margin distinctly elevated.

TYPE LOCALITY.—Dixie Pass, Malheur National Forest, Oregon.

TYPE MATERIAL.—The male holotype, damaged female allotype, and one damaged female paratype were taken at the type locality on 23-VI-61, from an unthrifty branch of a recently fallen *Picea engelmanni*, by S. L. Wood. The elytral declivity is missing from both females.

The holotype, allotype, and paratype are in my collection.

Carphobius cupressi, n. sp.

This is the second species assigned to this genus. It is distinguished from *arizonicus* Blackman by the larger size, by the more finely punctured frons, by the convex elytral declivity, by the absence of denticles on the declivity, by the brightly polished appearance, by the finer vestiture, and by many other characters.

MALE.—Length 2.8 mm (paratypes 2.2-3.2 mm), 2.3 times as long as wide; color very dark brown, almost black, elytra dark reddish brown.

Frons strongly, transversely impressed just below middle, impression extending to upper level of eyes, epistoma strongly raised and bearing a broad premandibular lobe, a small median tubercle at base of lobe; surface of impressed area very smooth, brightly shining, very finely punctured on lower third, punctures slightly larger above; vertex reticulate, dull. Eye shallowly emarginate, finely granulate. Antennal scape elongate; funicle 6-segmented, longer than scape; club as long as scape, 1.5 times as long as wide, with three straight, transverse sutures.

Pronotum 0.90 times as long as wide; widest near base, sides rather weakly arcuate and converging slightly on basal half, rather strongly constricted laterally just before broadly rounded anterior margin; surface smooth, brightly shining, punctures coarse, deep, close. Vestiture of fine, moderately long, rather abundant hair.

Elytra 1.6 times as long as wide, 2.1 times as long as pronotum; scutellum not exposed; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; each basal margin strongly arcuate and armed by

about 16 crenulations, submarginal crenulations poorly developed; striae not impressed, punctures coarse, deep; interstriae smooth, shining, as wide as striae, punctures fine, deep, confused, rather numerous. Declivity rather steep, convex; sculpture about as on declivity except striae punctures slightly smaller; interstitial punctures devoid of granules. Vestiture of fine, rather short, abundant striae and interstitial hair, and interstitial rows of similar but slightly longer hair. Third tarsal segments broad, bilobed.

FEMALE.—Similar to male except frons convex, with a slight central impression.

TYPE LOCALITY.—Eleven km N San Marcos, San Marcos, Guatemala.

TYPE MATERIAL.—The male holotype, female allotype, and 17 paratypes were taken on 23-II-72, from *Cupressus lucitanica* branches, by E. W. Clark.

The holotype, allotype, and paratypes are in my collection.

Cladoctonus atrocis, n. sp.

This species is distinguished from the rather closely allied *sentus* (Wood) by the smaller size, by the stouter body form, by the coarser, more irregular pronotal and striae punctures, by the irregular interstriae, and by the presence of denticles on declivital interstriae 6 and 8.

MALE.—Length 1.6 mm (paratypes 1.5-1.8 mm), 2.1 times as long as wide; color reddish brown.

Frons as in *sentus* except slightly narrower, punctures larger, less numerous; impression on lower area slightly stronger; eye larger, more coarsely faceted.

Pronotum 0.84 times as long as wide; outline as in *sentus*; surface smooth, shining, punctures averaging larger than in *sentus*, of irregular size and shape. Vestiture consisting of a very few, very widely spaced bristles.

Elytra 1.4 times as long as wide, 1.7 times as long as pronotum; essentially as in *sentus* except striae punctures averaging larger, subquadrate; interstriae narrower than striae, punctures fine, uniseriate, surface strongly undulating, particularly near declivity. Declivity very steep, convex; punctures smaller than on disc, confused, positions of interstriae determined from positions of tubercles, each interstriae with up to 10 tubercles, except 2 entirely unarmed, largest tubercles near base, 9 acutely, not strongly elevated, its crest curved toward

and joining lateral margin at position in line with interstriae 3 (as in *seutus*). Vestiture confined to declivital area, consisting of rather widely spaced interstitial bristles, each slightly longer and stouter than in *seutus*.

FEMALE.—Similar to male except frons broadly convex, with large central area (two-thirds of area between eyes) smooth, shining, impunctate, remaining areas bearing several long hairlike setae; pronotum less deeply punctured, interstriae less irregular, declivital tubercles slightly smaller.

TYPE LOCALITY.—About 260 km N Xavantia, Mato Grosso, Brazil, at 12°49' South 51°46' West.

TYPE MATERIAL.—The male holotype, female allotype, and two paratypes were taken at the type locality on 19-X-68, No. B47/8, by R. A. Beaver. One paratype bears identical data except 18-X-68, No. B38c; four paratypes bear the same data except 25-X-68, No. B94/3; and one paratype bears the same data except 24-XI-68, D51/1.

The holotype, allotype, and two paratypes are in the British Museum (Natural History), two paratypes are in the Museu de Zoologia, Universidade de São Paulo, and four paratypes are in my collection.

Scolytodes canalis, n. sp.

This species is not closely related to any described species, although it is placed in the genus near *clusiae* Wood and *parvulus* Wood. Distinguishing characters include the slightly protuberant, lower female frons which has a narrow, shallow, median sulcus, with the frontal vestiture confined to the upper margins; the discal interstitial punctures are obsolete; and the pronotal and striae punctures are moderately coarse.

FEMALE.—Length 1.7 mm (paratypes 1.4-1.7 mm), 2.5 times as long as wide; color black.

Frons rather broadly convex, slightly protuberant on lower half, median fourth just below upper level of eyes shallowly concave, impression continued on median sixth as a shallow sulcus to epistoma; surface of upper half almost smooth, rather finely, deeply punctured, becoming finely granulate on lower half except reticulate in impressed area; vestiture apparently restricted to margins of upper half, tips of some long, yellow, hairlike setae arising on vertex reaching to epistoma.

Pronotum 1.1 times as long as wide; sides almost straight on more than basal two-thirds,

converging slightly to anterolateral angles, broadly rounded in front; anterior third weakly declivous; surface reticulate, subshining, punctures on posterior half moderately coarse, deep, not close, decreasing in size on anterior half, most of them replaced by minute granules on anterior sixth or obsolete. Glabrous.

Elytra 1.6 times as long as wide; sides straight on basal two-thirds, very slightly wider at base of declivity, rather narrowly rounded behind; striae not impressed, punctures moderately deep; interstriae as wide as striae, smooth, shining, punctures obsolete, some with one to three minute granules. Declivity steep, convex; striae punctures smaller than on disc; a few minute interstitial punctures usually present. Vestiture of fine sparse, erect, interstitial hair of moderate length on odd-numbered interstriae, much shorter to obsolete on even-numbered interstriae.

MALE.—Similar to female except frons evenly, more strongly convex, surface reticulate, with scattered punctures, subglabrous.

TYPE LOCALITY.—Mt. Tzontchultz, Chiapas, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and 20 paratypes were taken at the type locality on 26 and 29-V-69 and 12-VI-69, 9500 ft (3100 m) elevation, by D. E. Bright.

The holotype, allotype, and 14 paratypes are in the Canadian National Collection; six paratypes are in my collection.

Scolytodes costabilis, n. sp.

This species is distinguished from *melanocephalus* Blandford by the different female frontal sculpture, by the very fine punctures on the pronotal disc, and by the very small striae punctures.

FEMALE.—Length 1.8 mm (paratypes 1.8-2.0 mm), 2.6 times as long as wide; color brown.

Frons rather broadly flattened from epistoma to vertex; a pair of low, subparallel, longitudinal carinae from level of antennal insertion to epistomal margin; surface smooth and shining above level of antennal insertion, a row of punctures around margin; feebly bisulcate between carinae, finely reticulate-punctate in sulci, smooth and shining between; vestiture of long, yellow hair on margins above, tips of longest setae reach level of antennal insertion, sulci on lower third with fine, short hair.

Pronotum 1.1 times as long as wide; sides straight on basal two-thirds, converging very slightly to anterolateral angles, broadly rounded

in front; surface reticulate, anterior fourth rather strongly declivous and finely asperate, fine, almost obsolete punctures behind each asperity; punctures on posterior areas very small, shallow, moderately close. Glabrous.

Elytra 1.4 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; basal margins not carinate, abrupt; striae not impressed, punctures very fine, distinctly impressed, spaced within a row by about twice diameter of a puncture; interstriae smooth, shining, punctures very fine, three or more times as wide as striae, uniseriate except moderately confused in some specimens. Declivity steep, convex; sculpture essentially as on disc.

TYPE LOCALITY.—Lago Catemaco, Veraacruz, Mexico.

TYPE MATERIAL.—The female holotype and four female paratypes were taken at the type locality on 16-20-VI-69 (holotype) and 1-3-V-69 (paratypes) by D. E. Bright.

The holotype and two paratypes are in the Canadian National Collection; the other two paratypes are in my collection.

Pseudothysanoes contrarius, n. sp.

This species is distinguished from *bartoni* Bruck by the more slender, recurved spines on the male declivital interstriae 2, 3, 5, and 7, by the coarser striae punctures, by the broader interstitial scales, and by the more broadly rounded anterior margin of the pronotum.

MALE.—Length 1.0 mm (paratypes 1.0-1.2 mm), 2.1 times as long as wide; color black.

Frons convex, a weak transverse impression on lower half, subfoveate at center; surface rugose-reticulate, punctures not evident; vestiture confined to epistomal brush.

Pronotum 0.89 times as long as wide; widest near base, sides moderately arcuate, converging toward rather broadly rounded anterior margin; anterior margin armed by ten small denticles. Vestiture of sparse, short, stout bristles, a few small scales in lateral area.

Elytra 1.3 times as long as wide; sides almost straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, punctures coarse, deep; interstriae as wide as striae, smooth, shining, with uniseriate rows of small granules. Declivity convex, gradual, beginning at middle of elytra; striae punctures gradually reduced in size until minute near apex; granules on interstriae 1 smaller than

on disc, obsolete on 2 except one or two near base enlarged into slender, sharply pointed, recurved spines, 3 with seven to nine similar spines, 5 with three, and 7 with about five spines; spines on 3 slightly recurved, longest spines equal in length to width of an interstriae, slightly shorter than interstitial scales. Vestiture of rows of minute, fine, interstitial hair, and rows of erect, interstitial scales; each scale about two-thirds as long as distance between rows, about three to four times as long as wide, those arising from posterior surface of spines often slightly larger.

TYPE LOCALITY.—Lagos des Colores, Chiapas, Mexico.

TYPE MATERIAL.—The male holotype and three male paratypes were taken at the type locality on 14-VI-69, from *Acacia*, by D. E. Bright.

The holotype and two paratypes are in the Canadian National Collection; one paratype is in my collection.

Pseudothysanoes recavus, n. sp.

This species is closely allied to *dimorphus* (Schedl), but it is distinguished by the larger, deeper, striae punctures, by the more deeply excavated female frons, with the impression extending only slightly above the eyes, by the presence of a dense fringe of short setae on the upper margin of the female frontal concavity, and by the stouter elytral scales.

FEMALE.—Length 1.3 mm (paratypes: males 1.2 mm; females 1.2-1.4 mm), 2.2 times as long as wide; color very dark brown, almost black.

Frons deeply, rather broadly concave from epistoma to slightly above eyes; premandibular epistomal lobe rather well developed; surface of concavity reticulate on upper two-thirds, smooth below; upper margin of concavity bearing a dense fringe scalelike setae on median two-thirds; epistoma with a few long, subplumose setae in lateral areas. Antennal scape strongly triangular, two and one-half times as wide as long, bearing a dense brush of long hair somewhat more elaborate than in *dimorphus*; club moderately large, elongate-oval, minutely pubescent, entirely devoid of sutures.

Pronotum 0.91 times as long as wide; as in *dimorphus* except posterior areas more finely reticulate, and granules between summit and basal margin slightly larger.

Elytra 1.4 times as long as wide; outline as in *dimorphus*; striae not impressed, punctures rather fine, distinctly impressed; interstriae

rather smooth, shining, almost twice as wide as striae, punctures very fine, uniseriate. Declivity steep, convex; interstitial punctures replaced by rounded granules of similar size and appearance to those of *dimorphus*, but more widely spaced. Vestiture of rows of minute, fine, recumbent, strial hair, and rows of erect, interstitial scales; each white scale about five times as long as wide, almost as long as distance between rows, slightly longer than distance between scales within a row.

MALE.—Similar to female except body 1.9 times as long as wide; frons rather weakly convex, rugose-reticulate, vestiture sparse, less conspicuous; anterior margin of pronotum armed by eight small teeth; interstitial punctures on disc finely granulate; interstitial scales less than one and one-half times as long as wide.

TYPE LOCALITY.—Five miles (8 km) S Simojovel, Chiapas, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and 62 paratypes were taken at the type locality on 4-VII-69, by D. E. Bright.

The holotype, allotype, and most of the paratypes are in the Canadian National Collection; the remaining paratypes are in my collection.

Thysanoes granulifer, n. sp.

This species is distinguished from *berschemiae* Blackman by the larger size, by the smaller discal interstitial tubercles, by the much larger declivital interstitial tubercles, and by the much larger declivital scales.

MALE.—Length 2.2 mm, 2.9 times as long as wide; color dark reddish brown.

Frons largely concealed by pronotum, evidently as in *berschemiae*. Pronotum as in *berschemiae*.

Elytra 1.8 times as long as wide; outline as in *berschemiae*; striae not impressed, punctures moderately coarse, deep; interstriae smooth, shining, slightly narrower than striae, punctures fine, slightly granulate, uniseriate, granules coarse near declivity. Declivity steep, convex; strial punctures slightly smaller than on disc, deep; interstitial tubercles as wide as diameter of a strial puncture, as high as wide, on interstriae 1-7, very slightly smaller on lower half of declivity. Vestiture of rows of minute, fine strial hair, and rows of erect interstitial scales; scales on disc about three times as long as wide, shorter than distance between rows, on declivity four to eight times as long as wide, one to one

and one-half times as long as distance between rows.

TYPE LOCALITY.—San Cristobal de las Casas, Chiapas, Mexico.

TYPE MATERIAL.—The unique male holotype was taken at the type locality on 7-V-69, by J. E. H. Martin.

The holotype is in the Canadian National Collection.

Micracisella mimetica, n. sp.

This species is distinguished from *knulli* Blackman by the larger size, by the frontal granules, by the shorter, broader elytral scales, and by the smaller denticles on the elevated declivital interstriae 3.

MALE.—Length 2.3 mm (paratypes 2.3-2.4 mm), 2.9 times as long as wide; color dark reddish brown.

Frons moderately convex except rather abruptly, strongly, transversely impressed on lower fourth; surface rugose-reticulate in marginal areas, more finely, rather obscurely rugose-reticulate in central area; upper two-thirds with about 30 small, high, isolated granules, two near center much larger; vestiture of uniformly distributed, short, coarse setae of moderate abundance. Eye oval, shallowly emarginate; twice as long as wide. Antennal club 1.0 times as long as wide; suture 1 reaching middle of club.

Pronotum 1.1 times as long as wide; outline and asperities as in *knulli*; anterior margin armed by six teeth, lateral pair much smaller; posterior areas rugose-reticulate, dull, with small, low, shining granules of moderate abundance. Vestiture on disc of recumbent scales, each scale about four times as long as wide; a few bristles in asperate area.

Elytra 1.9 times as long as wide; outline as in *knulli*; disc as *knulli* except surface irregular, with numerous transverse lines or wrinkles. Declivity as in *knulli* except interstriae 1 and 9 slightly more strongly convex but with denticles on summit much smaller. Vestiture recumbent, of interstitial scales except declivital interstriae 2, 4, and 8 glabrous; scales evidently slightly confused on odd-numbered interstriae, uniseriate on even-numbered interstriae; each scale two to three times as long as wide.

FEMALE.—Similar to male in all respects; distinguished externally only by terminal terga of abdomen.

TYPE LOCALITY.—Three miles (5 km) N Suchixtepec on Highway 175, Oaxaca, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and three paratypes were taken at the type locality on 4-VI-71, 9500 ft elevation, in mistletoe on oak, by D. E. Bright.

The holotype, allotype, and one paratype are in the Canadian National Collection; two paratypes are in my collection.

Micracisella ocellata, n. sp.

This species is remotely allied to *nitidula* Wood, but it is distinguished by the very deeply impressed declivital striae and by the moderately large punctures on the discal striae, each of which has a small, elevated, central point giving the appearance of an eye.

MALE.—Length 2.2 mm (paratypes 1.9-2.3 mm), 3.5 times as long as wide; color dark reddish brown, pronotum usually darker.

Frons broadly convex, a slight, transverse impression immediately above epistoma; surface finely rugose-reticulate, a few fine punctures in lateral areas, a few small granules in median area of upper half; vestiture of very short, stout, subplumose setae laterally and on upper half, a few longer setae along epistoma. Eye feebly emarginate; twice as long as wide. Antennal club as in allied species.

Pronotum 1.18 times as long as wide; essentially as in *nitidula* except scales on disc distinctly wider.

Elytra 2.4 times as long as wide; outline about as in *nitidula*; striae not impressed, punctures large, distinctly impressed, each with a small, central, elevated granule giving appearance of an eye; interstriae as wide as striae, shining, almost smooth, punctures fine, uniseriate, rather close. Declivity rather steep, convex, with apex slightly produced; striae deeply impressed, punctures small, obscure; interstriae 1, 2, and 3 equally convex, almost half as high as wide, each bearing a row of low, rounded nodules on its lateral half, granules more obscure and smaller on 3; surface on lower half somewhat rugose-reticulate. Vestiture of rows of fine, short, strial hair, and interstitial rows of recumbent scales; each scale on disc eight or more times as long as wide, about four times as long as wide on declivity.

FEMALE.—Similar in all respects to male; presumably those specimens with a few more setae on scape are females.

TYPE LOCALITY.—Three miles (5 km) N Suchixtepec on Highway 175, Oaxaca, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 34 paratypes were taken on 4-VI-

71, 9500 ft elevation, from *Arbutus*, by D. E. Bright. Two paratypes bear identical data to the type but were taken from mistletoe on oak. Nine paratypes are from 20.5 km N Oaxaca, 31-V-71, 9000 ft, *Arbutus*, D. E. Bright. Eighteen paratypes are from 37 miles (59 km) S Valle Nacional, 24-V-71, 8500 ft, from *Arbutus*, by D. E. Bright; one paratype is from 15 mi S (24 km) Valle Nacional, 20-V-71, 4000 ft, from *Arbutus*, by D. E. Bright.

The holotype, allotype, and most of the paratypes are in the Canadian National Collection; the remaining paratypes are in my collection.

Hylocurus rivalis, n. sp.

This species is distinguished from *schwarzi* Blackman by the serrate male declivital interstriae 9, with the nodules on all interstriae higher and slightly closer, by the numerous, strong, irregularly transverse, interstitial lines, and by the more strongly rugose-reticulate pronotal disc. It is probably more closely related to *effeminatus* Wood.

MALE.—Length 2.6 mm (paratypes 2.1-2.7 mm), 2.8 times as long as wide; color very dark reddish brown, some specimens almost black.

Frons as in *effeminatus*, including transverse elevation. Antennal club distinctly larger than in *effeminatus*. Pronotum as in *effeminatus*.

Elytra 1.8 times as long as wide; outline similar to *effeminatus*; striae not impressed, punctures moderately large, deep; interstriae slightly wider than striae, shining, with numerous, irregular, coarse, transverse lines giving interstriae a suberenulate appearance, some of low, transverse ridges continuing across striae; moderately high, rounded nodules near declivity on all interstriae. Declivity steep, convex, contours about as in *schwarzi*; striae 1 and 2 continuing to base of mucro; base of each interstriae with three to five rounded nodules, largest as high as wide, 1, 3, and 7 with small, pointed tubercles to middle of declivity, tubercles on 2 and 4 extending to upper third, those on 5, 6, and 8 ending on upper fourth, 9 moderately elevated about as in *schwarzi* but with small nodules to apex of elevation. Vestiture more abundant than in *schwarzi*, of rows of minute strial hair, and rows of delicate, coarse, pointed bristles of same texture as *schwarzi*; bristles longest near base of declivity, each of longest bristles longer than distance between rows, more closely spaced within a row.

FEMALE.—Similar to male except frons devoid of transverse elevation; transverse lines

and subcrenulate ridges on elytral disc poorly developed; interstitial nodules much less than half as high, extending almost to middle of disc; declivital tubercles smaller; vestiture finer.

TYPE LOCALITY.—Three miles (5 km) N Suchixtepec on Highway 175, Oaxaca, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 52 paratypes were taken at the type locality on 4-VI-71, 9500 ft elevation, from *Pinus*, presumably by D. E. Bright.

The holotype, allotype, and most of the paratypes are in the Canadian National Collection; the remaining paratypes are in my collection.

Hylocurus binodatus, n. sp.

This species has the impressed frontal area with a pair of raised spongy patches somewhat reminiscent of the *rudis* group of species, but with the elytral declivity similar to female *harnedi* Blackman.

FEMALE.—Length 2.1 mm (paratypes 1.8-2.0 mm), 2.7 times as long as wide; color very dark brown, almost black.

Frons with a large, transversely reniform concavity from halfway between epistoma and upper level of eyes to vertex, widest point at upper level of eyes, occupying three-fourths of area between eyes; concavity rather abruptly impressed, moderately deep; central area of each half of concavity occupied by a protuberant, oval, spongy area, occupying about half of concave area; spongy areas rather narrowly separated from one another; general sculpture as in *rudis*; subglabrous.

Pronotum as in *rudis* except granules on disc smaller. Elytral disc as in *rudis*. Declivity as in *rudis* except tubercles distinctly larger; interstriae 1 with a moderately large protuberance at middle of declivity, slightly displaced from suture, almost as high as wide, similar to but smaller than female *harnedi*; interstriae 9 not more strongly elevated than in *rudis*. Vestiture as in *rudis*.

TYPE LOCALITY.—Nicholson, Mississippi.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 15-I-45, No. 45-2357, under hickory bark, apparently by W. H. Anderson. One female paratype is from Algiers, Louisiana, 18-IV-45, No. 45-8751, on pecan, by Rau. Slide mounts of genitalic parts designated by Anderson Scolytidae No. 367 (holotype) and No. 453 (Algiers paratype) are in the U.S. National Museum.

The holotype and one paratype are in the U.S. National Museum; the other paratype is in my collection.

Cryphalomorphus parvatis, n. sp.

This unique species is characterized by the small size, by the unarmed anterior margin of the pronotum, and by the uniseriate rows of striae and interstitial scales. It is much more likely to be confused with species of *Hypothenemus* than with other *Cryphalomorphus* species.

FEMALE.—Length 0.8 mm (paratypes 0.8 mm), 2.6 times as long as wide; color very dark brown with pale scales.

Frons moderately convex, almost smooth, with rather abundant, very small punctures; vestiture inconspicuous. Eye elongate, very shallowly, broadly emarginate. Antennal scape short; club subcircular, septum poorly developed, almost transverse.

Pronotum 1.0 times as long as wide; widest slightly behind middle, sides moderately arcuate but converging only slightly to anterolateral angles then rather abruptly converging to form subangulate, broadly rounded anterior margin; anterior margin unarmed; summit distinct, in front of middle; anterior slope rather finely asperate; posterior areas obscurely subreticulate, with rather fine, isolated granules of moderate abundance in lateral and dorsal areas. Vestiture of equally abundant short hair and scales in posterior areas, hair only on anterior half.

Elytra 1.6 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two thirds, rather narrowly rounded behind; striae not impressed, punctures uniseriate, small, rather shallow; interstriae as wide as striae, rather smooth, punctures slightly smaller than those of striae, not clearly defined. Declivity narrowly convex, rather steep; punctures slightly smaller than on disc. Vestiture of uniseriate rows of fine, short, recumbent striae hair, and uniseriate rows of erect interstitial scales; each scale about four times as long as wide, widest at its apex, spaced within a row and between rows by distances slightly shorter than length of a scale.

TYPE LOCALITY.—La Lima, Cortez, Honduras.

TYPE MATERIAL.—The female holotype and one damaged female paratype were taken at the type locality on 5-V-64, at 100 m elevation, No. 581, from *Cestrum scandens*, by S. L. Wood. One female paratype is from Guapiles, Limon, Costa Rica, 22-VIII-66, 100 m, No. 103, leguminose vine, S. L. Wood.

The holotype and paratypes are in my collection.

Cryphalomorphus setifer, n. sp.

This species is distinguished from *hirtus* Wood by the smaller size, by the presence of four to eight teeth on the anterior margin of the pronotum, by the less strongly impressed striae, and by the more slender interstitial scales.

FEMALE.—Length 1.7 mm (paratypes 1.4-1.7 mm), 2.5 times as long as wide; color very dark brown, with pale vestiture.

Frons broadly convex above, somewhat flattened below, a weak transverse impression just above epistoma; surface strongly reticulate, punctures fine, rather obscure, moderately close; vestiture inconspicuous. Eye entire, not at all sinuate. Antennal scape elongate; club rather large, ovate, suture 1 septate on lateral half, its procurved groove extending to median margin.

Pronotum 1.0 times as long as wide; widest just behind middle, sides weakly arcuate on posterior two-thirds, broadly rounded in front; anterior margin armed by four to eight small teeth; summit very slightly in front of middle; posterior areas coarsely, very closely punctured. Vestiture of short, stout, abundant hair.

Elytra 1.6 times as long as wide, 1.7 times as long as pronotum; outline as in *parvatus*; striae very feebly impressed, punctures rather coarse, moderately deep; interstriae very slightly wider than striae, smooth, punctures fine, deep, close, strongly confused. Declivity rather narrowly convex, steep; striae punctures slightly smaller, deeper; interstriae each with a uniseriate row of very fine granules. Vestiture of abundant, short ground cover, setae hairlike at base becoming scalelike on declivity, and rows of erect interstitial bristles; each erect bristle as long as distance between rows and between scales within a row, those on declivity, stouter, almost scalelike, about eight times as long as wide.

TYPE LOCALITY.—Volean Pacaya, Esquintla, Guatemala.

TYPE MATERIAL.—The female holotype, male allotype, and 24 paratypes were taken at the type locality on 1-VI-64, 1300 m elevation, No. 665, from a cut liana, by S. L. Wood. Thirty-seven additional paratypes are from Guatemala City, 30-V-64, 1300 m, No. 641, cut liana, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Cryphalomorphus hirtus, n. sp.

This species is distinguished from *setifer* Wood by the larger size, by the presence of only two teeth on the anterior margin of the pronotum, by the more strongly impressed interstriae, and by the stouter interstitial scales.

FEMALE.—Length 1.8 mm (paratypes 1.7-1.9 mm), 2.3 times as long as wide; color dark brown, almost black.

Frons as in *setifer* except transverse impression on lower half much stronger, and punctures much coarser but shallow. Antennal club as in *setifer* but slightly wider. Pronotum as in *setifer* but anterior margin armed by only two teeth and punctures in posterior area not as deep; a few scales sometimes present on margin in front of scutellum.

Elytra 1.4 times as long as wide; sides almost straight and parallel on basal three-fourths, broadly rounded behind; striae moderately impressed on posterior half of disc, punctures rather coarse, deep; interstriae slightly wider than striae, moderately convex toward declivity, punctures on disc small, close, confused, armed near declivity by median rows of small granules. Declivity very broadly convex, steep; sculpture as on posterior part of disc except interstriae slightly narrower, granules much larger. Vestiture of abundant ground cover of short scales and median interstitial rows of erect scales; erect scales little longer than ground cover on basal half of disc, more than twice as long on declivity, each scale almost as long as distance between rows and between scales within a row, each about four to five times as long as wide.

MALE.—Similar to female except transverse frontal impression slightly deeper.

TYPE LOCALITY.—Sixteen km (10 mi) south of Oaxaca, Oaxaca, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and five paratypes were taken at the type locality on 6-VII-53, by S. L. Wood. One paratype is from 6 km S Atlixco, Puebla, Mexico, 14-VI-67, 2300 m, S. L. Wood. All specimens were taken from cut branches of a small tree having a loosely layered structure of woody tissues, rather than uniformly hard wood.

The holotype, allotype, and paratypes are in my collection.

Cryphalomorphus rusticus, n. sp.

Distinguished from *knabi* Hopkins by the two teeth arming the anterior margin of the pro-

notum, by the much wider, scalelike ground vestiture on the anterior half of the elytral disc, and by the absence of interstrial granules on the disc.

FEMALE.—Length 1.5 mm (paratypes 1.2-1.5 mm), 2.6 times as long as wide; color dark brown, almost black.

Frons as in *knabi* except transverse impression much less strongly developed, punctures coarser, deeper. Eye, antenna, and pronotum as in *knabi* except anterior margin of pronotum armed by two coarse teeth and punctures on pronotal disc distinctly larger.

Elytra as in *knabi* except discal interstriae larger, deeper; declivital striae greatly reduced; interstrial ground vestiture at base of elytra of slender scales, each scale as wide as those in erect rows, on declivity each scale as wide as long; erect scales on declivity slightly longer than in *knabi*.

MALE.—Similar to female in all respects.

TYPE LOCALITY.—Thirty-three km (21 mi) north of Juchitlan, Jalisco, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and 19 paratypes were taken at the type locality on 3-VII-65, 1300 m, No. 184, by S. L. Wood, from the same host as *hirtus* Wood (described above). Six paratypes were labeled Lagos, Guanajuato, Mexico, 11-VI-65, 2000 m, No. 44, S. L. Wood, from the same host. A series not included in the type series is from 11 km SE Tuxpan, Michoacan, Mexico, 16-VII-53, 2000 m, S. L. Wood, also from the same host.

The holotype, allotype, and paratypes are in my collection.

Cryphalomorphus trucis, n. sp.

This species is distinguished from *rusticus* Wood by the coarser, strial punctures on the elytral declivity, by the more slender discal interstrial ground vestiture, and by the different armature on the anterior margin of the pronotum.

FEMALE.—Length 1.6 mm (paratypes 1.3-1.5 mm), 2.6 times as long as wide; color very dark brown, almost black, vestiture pale.

Frons, eye, and antenna as in *rusticus* except frontal punctures larger, deeper. Pronotum as in *rusticus* except posterior areas reticulate, and anterior margin armed by about four to eight irregularly placed teeth.

Elytra as in *rusticus* except strial punctures slightly larger, deeper, interstrial punctures minute but evident; discal ground vestiture

near base of elytra proportionately much narrower than adjacent erect scales; strial punctures on declivity average much larger.

MALE.—Similar to female.

TYPE LOCALITY.—Sixteen km (10 mi) S Oaxaca, Oaxaca, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and two paratypes were taken at the type locality on 6-VII-53, 1700 m elevation, S. L. Wood. Seventeen paratypes are from 11 km (7 mi) S Atlixco, 13-VII-53, S. L. Wood; eight paratypes are from 6 km (4 mi) S Atlixco, 14-VI-67, 2300 m, No. 31, S. L. Wood; and eight paratypes are from 19 km (12 mi) SE Matamoros, Puebla, 3-VII-53, S. L. Wood. All are from the same host as *hirtus* Wood (above).

The holotype, allotype, and paratypes are in my collection.

Hypothenemus apicalis, n. sp.

This species is distinguished from *rotundicollis* Eichhoff and *erectus* LcConte by the much more slender, erect, interstrial bristles and by the strongly elevated interstriae 9 at the elytral apex.

FEMALE.—Length 1.8 mm (paratypes 1.6-2.0 mm), 2.3 times as long as wide; color dark brown, vestiture pale.

Frons essentially as in *rotundicollis*. Pronotum as in *rotundicollis*, with 10 to 14 asperities on anterior slope, posterior area more strongly reticulate, anterior margin armed by four teeth, lateral pair usually smaller.

Elytra as in *rotundicollis* except declivity not as steep, its outline with a distinct lateral constriction near middle; declivital striae more strongly impressed, punctures shallow, larger, interstriae 1-3 distinctly convex, 9 distinctly convex to junction with 3 then strongly elevated from there to apex. Vestiture of short, confused ground setae, almost hairlike on disc, becoming scalelike on declivity, and rows of erect interstrial bristles; each bristle longer on declivity, on declivity each as long as distance between rows or between bristles within a row, each about eight times as long as wide.

TYPE LOCALITY.—Three km (2 mi) E Armeria, Colima, Mexico.

TYPE MATERIAL.—The female holotype and seven female paratypes were taken at the type locality on 28-VI-65, 70 m elevation, No. 130, and on 21-VI-67, 100 m elevation, No. 72, from an unidentified liana, by S. L. Wood.

The holotype and paratypes are in my collection.

Hypothenemus indigenus, n. sp.

This species is distinguished from *rotundicollis* Eichhoff by the minutely granulate elytral surface and by the much more slender, more widely spaced, erect, interstitial bristles.

FEMALE.—Length 1.7 mm (paratypes 1.4-1.7 mm), 2.4 times as long as wide; color dark brown.

Head and pronotum as in *rotundicollis* except pronotal asperities slightly smaller, narrower, posterior areas more strongly reticulate.

Elytra 1.6 times as long as wide, as in *rotundicollis*, except surface minutely granulate, bristle-bearing interstitial punctures on disc granulate, declivital ground vestiture more nearly scalelike, and erect interstitial bristles much more slender and more widely spaced within a row; each bristle about eight times as long as wide; spaced within a row by distances slightly greater than length of a bristle.

MALE.—Similar to female except 1.2 mm long; eye reduced in size; antennal club more slender; most characters less sharply formed; vestiture longer.

TYPE LOCALITY.—Nine km (6 mi) S Huajuapán, Oaxaca, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and one male paratype were taken at the type locality on 16-VI-67, No. 45, from *Serjania*, by S. L. Wood. Two paratypes are from 17 km (11 mi) N Huajuapán, 15-VI-67, No. 43, *Psittacanthus*; 4 paratypes from 13 km (8 mi) SE Cameron, 21-VI-67, No. 76, shrub; 3 paratypes from 5 km (3 mi) S Matamoros, Puebla, 14-VI-67, 2000 m, No. 33, *Toxicodendron*; 6 paratypes from Volcan Cebornico, Nayarit, 5-VII-65, 1000 m, No. 189, *Serjania*; and one paratype from Volcan Colima, Jalisco, 23-VI-65, 500 m, No. 103, shrub; all by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Hypothenemus trivialis, n. sp.

This species is distinguished from *bolivianus* Eggers by the smooth, shining elytral disc and smoother pronotal disc, by the more slender, slightly longer interstitial bristles, and by the much more strongly confused punctures and bristles on interstriae 2 and 3 on the basal half of the disc.

FEMALE.—Length 1.8 mm (paratypes 1.5-1.8 mm) 2.2 times as long as wide; color black.

Frons convex; a small median impression at upper level of eyes; surface rather finely rugose-reticulate, except smooth and shining in median area from epistoma to impression.

Pronotum 0.90 times as long as wide; widest on basal third, sides rather strongly, arcuately converging to rather narrowly rounded anterior margin; anterior margin armed by four teeth, lateral pair smaller; anterior slope armed by more than 35 moderately large asperities; posterior areas subreticulate, shining, granulate behind summit, granules sparse and intermixed with fine, shallow punctures laterally. Vestiture of hair, intermixed in posterior areas with slender scales.

Elytra 1.4 times as long as wide; outline as in related species; striae not impressed, punctures moderately large, shallow, their inner surfaces reticulate-granulate; interstriae smooth, shining, twice as wide as striae, punctures fine, uniseriate on 1 and 4-10, confused on 2 and 3 except near declivity. Declivity commencing near middle of elytra, rather gradual, convex; striae weakly impressed, punctures smaller, deeper; interstriae weakly convex, punctures uniseriate, finely granulate. Vestiture of rows of minute, fine, strial hair and rows of erect interstitial bristles; each bristle slightly longer than distance between rows or between bristles within a row; each bristle on disc slightly flattened, usually not flattened on declivity.

TYPE LOCALITY.—Santa Ana, San José, Costa Rica.

TYPE MATERIAL.—The female holotype and four female paratypes were taken at the type locality on 1-VIII-63, 1300 m elevation, No. 92, from *Cuparia guatemalensis*, by S. L. Wood. Other female paratypes were taken in Costa Rica as follows: 17 same locality as type, 30-VIII-63, 1300 m, No. 152, unidentified tree branches; one at Río Damitas in the Dota Mts., San José, 22-VIII-63, 250 m, No. 129, *Vismia guianensis*; seven at Beverley, Limón, 26-VIII-63, 7 m, No. 154, vine; 14 at Pandora, Limón, 23-VIII-63, 50 m, Nos. 141 and 149, tree branches; two at Finca Gromaco on Río Coto Brus, Puntarenas, 14-VII-63, 500 m, No. 76, seedling; one at Rincon de Osa, Puntarenas, 11-VIII-66, 50 m, No. 25; one at Cañas, Guanacaste, 13-VII-66, 30 m, No. 92, *Ochroma*. Three paratypes are from Barro Colorado Island, Canal Zone, Panama, 27-XII-63, 70 m, No. 342, tree branch; three are from Ft. Clayton, Canal Zone, Panama, 22-XII-63, 30 m, Nos. 319 and 330, *Serjania*; nine are from 10 km SE Miri, Barinas, Venezuela, 8-II-70, No. 305, *Serjania*; three are from 8 km S Colonia (near Buenaventura),

Valle de Cauca, Colombia, 9-VII-70, Nos. 617 and 620, *Ficus*; and three are from 37 km N Matías Romero, Veracruz, Mexico, 29-VI-67, 100 m, No. 125, tree branch. All were taken by me.

The holotype and paratypes are in my collection.

Hypothenemus dolosus, n. sp.

This species is distinguished from *opacus* (Eichhoff) by the absence of pits behind the asperities on the pronotal summit, by the more coarsely, deeply punctured pronotal disc, by the smooth, shining elytral surface, and by the absence of scalelike setae on the pronotum.

FEMALE.—Length 1.6 mm (paratypes 1.6-1.7 mm), 2.3 times as long as wide; color dark brown to black.

Head and pronotum as in *opacus* except asperities at pronotal summit not associated with deep pits, some punctures between summit and base form deep pits but without associated asperities; posterolateral areas subshining, deeply, closely, coarsely punctured. Vestiture all hairlike.

Elytra as in *opacus* except surface of interstriae smooth, shining; punctures on discal interstriae 2 usually uniseriate; declivital surface minutely granulate.

TYPE LOCALITY.—Pandora, Limón, Costa Rica.

TYPE MATERIAL.—The female holotype and seven female paratypes were taken at the type locality 23-VIII-63, 50 m elevation, No. 140, from *Mimosa*, by S. L. Wood; two other paratypes bear identical data except they are No. 142, from an unidentified branch; and one paratype No. 154 is from an unidentified liana. Two paratypes are from La Lima, Cortez, Honduras, 5-V-64, 200 m, No. 575, *Sweitenia* plantation, S. L. Wood.

The holotype and paratypes are in my collection.

Hypothenemus solocis, n. sp.

This species is distinguished from *squamosus* Hopkins by the more strongly impressed discal striae, by the slightly larger interstitial tubercles on both disc and declivity, by the more narrowly convex declivity with the costal margin near the apex much more strongly elevated, and by the reduction of tubercles toward the apices of interstriae 2, 4, 5, 6, and 8.

FEMALE.—Length 1.3 mm (paratypes 1.3-1.5 mm), 2.3 times as long as wide; color dark reddish brown.

Head and pronotum as in *squamosus* except surface of posterior areas more coarsely granulate.

Elytra 1.5 times as long as wide; sides almost straight and parallel on basal two-thirds, distinctly constricted near middle of declivity, rather narrowly rounded behind; striae distinctly impressed, punctures moderately large, shallow, indistinct; interstriae as wide as striae, distinctly impressed, punctures moderately large, shallow, indistinct; interstriae as wide as striae, distinctly convex, entire surface granulate, punctures uniseriate, granulate. Declivity rather narrowly convex, steep; interstriae more narrowly convex, particularly 1 and 3, granules larger except obsolete toward apices of 2, 4, 5, 6, and 8, posterior part of 9 with costal margin rather strongly elevated. Vestiture of rows of minute, fine, strial hair, and rows of erect, interstitial scales; each scale on declivity slightly shorter than distance between rows, slightly longer than distance between scales within a row, each about two to three times as long as wide.

TYPE LOCALITY.—Three km (2 mi) west of Armeria, Colima, Mexico.

TYPE MATERIAL.—The female holotype was taken at the type locality on 28-VI-65, 70 m elevation, No. 135, from a *Phoradendron* twig, by S. L. Wood. Paratypes were taken in Mexico as follows: two from Concha, Sinaloa, 20-VII-53, 15 m, S. L. Wood; three from 27 km (17 mi) E San Blas, Nayarit, 25-VII-53, 10 m, S. L. Wood; one from 8 km S Río Santiago Ferry, 27-XI-48; two from 48 km (30 miles) N Tepic, 11-VII-65, 500 m, No. 226 in *Inga* (one specimen), No. 228 in *Serjania* (one specimen), S. L. Wood; and one from Los Corchos, Nayarit, 10-VII-65, 7 m, No. 206, tree branch, S. L. Wood.

The holotype and paratypes are in my collection.

Hypothenemus vesculus, n. sp.

This species is distinguished from *nanellus* Wood by the smooth, shining posterolateral areas of the pronotum, with the punctures entirely devoid of granulation, by the unimpressed striae, with small, shallow, strial punctures, by flat, smooth interstriae, and by the much more slender interstitial scales.

FEMALE.—Length 1.0 mm, 2.2 times as long as wide; color dark brown.

Frons as in *nanellus* but surface below upper level of eyes smooth, shining, punctures more distinct. Pronotum as in *nanellus* except

surface smooth, shining, no trace of reticulation, punctures larger, deeper, devoid of granules; scales in posterior area more slender.

Elytra about 1.5 times as long as wide; outline as in *nanellus*; striae not at all impressed, punctures small, shallow, distinct; interstriae flat, smooth, shining, two to three times as wide as striae, punctures very fine, uniseriate. Declivity rather steep, convex; essentially as on disc. Vestiture of rows of fine, short, strial hair on disc with similar supplemental interstitial hair on lower declivity, and rows of erect interstitial scales; each scale as long as distance between rows, more closely spaced within a row, each about four to six times as long as wide.

TYPE LOCALITY.—Ocosingo Valley, Chiapas, Mexico.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 7-VII-50, by L. J. Stannard.

The holotype is in my collection.

Hypothenemus suspectus, n. sp.

This species is distinguished from the closely allied *cylindricus* Hopkins by the less extensive frontal impression, and by the much more slender interstitial scales. It could easily be confused with *arecae* (Hornung) but it is smaller, and the frontal impression is much less extensive and more shallow.

FEMALE.—Length 1.2 mm (paratypes 1.1-1.3 mm), 2.4 times as long as wide; color almost black.

Frons as in *cylindricus* except lower frons shallowly, transversely impressed, not concave. Pronotum and elytra as in *cylindricus* except interstitial supplemental hairlike setae in ground vestiture more abundant on and near declivity, and erect interstitial scales much more slender, each scale about eight times as long as wide.

TYPE LOCALITY.—Pandora, Limon Prov., Costa Rica.

TYPE MATERIAL.—The female holotype was taken at the type locality on 23-VIII-63, 50 m elevation, No. 148, from a cucurbit vine, by S. L. Wood. Paratypes were taken as follows: Seven bear data identical to the type except for collection No. 144, No. 147, or No. 149, unknown tree branch; one from Finca Taboga near Cañas, Guanacaste, Costa Rica, 8-II-67, *Cecropia* petiole; two from Finca La Lola, Limon, Costa Rica, 10-I-63, *Theobroma cacao*, J. L. Saunders; one from Rincon de Osa, Puntarenas, Costa Rica, 11-VII-66, 50 m, No. 58

Cecropia petiole, S. L. Wood; one from 8 miles (13 km) S El Hato del Volean, 7-I-64, 1000 m, No. 371, tree seedling, S. L. Wood; two from 20 km SW El Vigia, Merida, Venezuela, 10-XII-69, 50 m, No. 188 vine, S. L. Wood; one from 17 km SE Miri, Barinas, Venezuela, 17-XII-69, 150 m, No. 196, *Albizzia caribaea*, S. L. Wood; one from 3 km NE Creole, Barinas, Venezuela, 18-XII-69, 150 m, No. 203, *Inga*, S. L. Wood.

The holotype and paratypes are in my collection.

Perioecryphalus sobrinus, n. sp.

This species is distinguished from *pullus* Wood by the larger size, by the more strongly reticulate pronotal disc, by the more strongly, more narrowly produced costal margin of the elytra at and near the suture, and by the more widely spaced, uniseriate, declivital interstriae.

FEMALE.—Length 1.25 mm (paratype 1.2 mm), 2.3 times as long as wide; color black.

Frons and pronotum as in *pullus* except pronotal disc much more strongly reticulate.

Elytra as in *pullus* except apical margin slightly more strongly, more narrowly produced; minute strial hair, in rows, indicate positions of obsolete strial punctures (similar setae present on *pullus* but supplemented by a few similar interstitial setae); erect interstitial scales in uniseriate rows, each slightly shorter than in *pullus* and much more widely spaced, spacing within a row slightly greater than length of scale on both disc and declivity (scales on declivital interstriae 2 in *pullus* confused, almost forming a double row).

TYPE LOCALITY.—About 260 km N Navantina, Mato Grosso, Brazil.

TYPE MATERIAL.—The female holotype was taken at the type locality on 13-X-68, No. B07, by R. A. Beaver. One female paratype bears the same data except 7-XI-68, No. F03.

The holotype is in the British Museum (Natural History); the paratype is in my collection.

Dendrocranulus limatus, n. sp.

This species is very closely related to *limus* Wood, but it is distinguished by the smaller size, by the more strongly granulate pronotal disc, and by the more densely pubescent female frons.

MALE.—Length 1.6 mm (paratypes 1.5-1.8 mm), 2.6 times as long as wide; color dark reddish brown.

Frons as in *limus* except more coarsely, closely granulate-punctate, not at all reticulate; vesti-

ture less abundant, shorter. Pronotum as in *limus* except declivital striae with punctures slightly larger, interstriae 1 weakly elevated, 2 weakly depressed; vestiture slightly stouter.

FEMALE.—Similar to male except frons slightly flattened, rather finely, closely punctured, including central area, ornamented by abundant, long, yellow hair uniformly distributed from epistoma to well above upper level of eyes.

TYPE LOCALITY.—Bumbum Forest Station, Barinas, Venezuela.

TYPE MATERIAL.—The male holotype, female allotype, and 75 paratypes were taken at the type locality on 29-I-70, 150 m elevation, No. 276, cucurbit vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus reditus, n. sp.

This species is distinguished from *vinealis* Wood by the slightly larger size, by the much stronger frontal impression of the male, with the tubercle on the summit much more strongly developed, by the finer declivital punctures, and by the more slender interstitial setae.

MALE.—Length 1.5 mm (paratypes 1.3-1.7 mm), 2.8 times as long as wide; color very dark brown.

Frons as in *vinealis* except more extensively, slightly more deeply impressed, median summit on vertex much more strongly developed, forming a rather narrowly rounded elevation. Pronotum as in *vinealis* except granules in median area of disc much smaller, almost obsolete, obscure reticulation present in some specimens. Elytra as in *vinealis* except declivital punctures smaller, interstriae 2 not as strongly impressed; interstitial bristles more slender, very slightly longer.

FEMALE.—Similar to male except frons convex, feebly impressed on lower half, summit on vertex feebly elevated, surface more coarsely, more uniformly punctured, vestiture sparse; pronotal reticulation more commonly present.

TYPE LOCALITY.—Nine km S Barraneas, Barinas, Venezuela.

TYPE MATERIAL.—The male holotype, female allotype, and 42 paratypes were taken at the type locality on 1-X-69, 150 m elevation, No. 34 (some paratypes No. 35), cucurbit vine, S. L. Wood. Other paratypes were taken in Venezuela as follows: 12 from 8 km SW Bumbum, Barinas, 11-II-70, 150 m, No. 311; 20 from 20 km SW El

Vigia, Merida, 10-XII-69, 50 m, No. 185; and 24 from 5 km W El Pino (near shore of Lake Mari-caibo), Merida, 20-XI-69, 10 m, No. 142; all from the same host and collector.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus conditus, n. sp.

This species is distinguished from the very closely allied *consimilis* Wood by the more finely punctured, subreticulate frons, by the much less strongly granulate, reticulate pronotal disc, by the larger striae punctures, and by the slightly depressed declivital interstriae 2 which is entirely without granules.

MALE.—Length 1.4 mm (allotype 1.3 mm), 2.6 times as long as wide; color reddish brown.

Frons as in *consimilis* except surface obscurely reticulate, punctures slightly smaller and less granulate. Pronotum as in *consimilis* except surface of disc reticulate, distinctly, rather coarsely punctured, each puncture with a small, transversely elongate granule lateral to each puncture. Elytra as in *consimilis* except striae punctures larger; interstriae as wide as striae, impunctate; declivity with interstriae 2 slightly depressed, interstriae with uniseriate, fine punctures, devoid of granules; acute ventrolateral margin of declivity less well developed.

FEMALE.—Similar to male except elytral declivity very slightly more convex.

TYPE LOCALITY.—Bumbum Forest Station, Barinas, Venezuela.

TYPE MATERIAL.—The male holotype, female allotype, and one callow, male paratype with collapsed frons were taken at the type locality on 29-I-70, 150 m, No. 276, from a cucurbit vine, by S. L. Wood.

The holotype, allotype, and paratype are in my collection.

Dendrocranulus consimilis, n. sp.

This species is allied to *limbus* Wood, but it is distinguished by the smaller size, by the more slender form and by the shorter setae on the declivity.

MALE.—Length 1.4 mm (paratypes 1.2-1.5 mm), 2.5 times as long as wide; color yellowish brown.

Frons convex, with a slight transverse impression on lower half; surface shining, closely, deeply, rather coarsely punctured at sides and above, becoming almost impunctate on median

fourth of lower half; vestiture of fine, sparse, long hair uniformly distributed.

Pronotum 1.2 times as long as wide, sides on more than posterior two-thirds subparallel, feebly arcuate, anterior margin broadly rounded; anterior third moderately declivous, fine asperate, asperities decreasing in size but attaining base in lateral areas; disc shining, rather coarsely punctured, most punctures partly granulate; surface on posterior half very slightly subreticulate. Vestiture of sparse hair.

Elytra 1.6 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on more than basal two-thirds, abruptly, very broadly rounded behind; striae not impressed, punctures rather small; interstriae almost smooth, twice as wide as striae, punctures uniseriate, almost as large as those of striae. Declivity very steep, transversely flattened between interstriae 3, longitudinally slightly convex; posterolateral margin from suture to about interstriae 3 subacutely elevated; striae 1 and 2 distinctly impressed; interstriae 1 weakly elevated, 2 very slightly depressed, punctures of 2 and 3 finely granulate, obscurely granulate in lateral areas. Vestiture of rows of minute, obscure, recumbent, strial hair and rows of erect interstitial bristles; each bristle about one and one-third times as long as distance between rows or within a row, except shorter, slightly more than half as long on declivital interstriae 1 and 2.

FEMALE.—Similar to male except frons more broadly, evenly convex, with frontal pubescence about twice as abundant.

TYPE LOCALITY.—Los Corchos, Nayarit, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 40 paratypes were taken at the type locality on 10-VII-65, 7 m elevation, No. 207, from an unidentified, climbing cucurbitaceous vine, by S. L. Wood. Other specimens, not included in the type series, are from Honduras.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus vinealis, n. sp.

This species is distinguished from the closely allied *pumilus* Wood by the shining pronotal disc, by the subcrenulate granules accompanying each puncture on the pronotal disc, and by the much more strongly impressed male frons.

MALE.—Length 1.3 mm (paratype 1.2 mm),

2.7 times as long as wide; color very dark brown.

Frons convex above upper level of eyes, strongly, transversely impressed below that level; surface smooth and shining, with moderately fine, subgranulate punctures in convex area, almost impunctate in impressed area, vestiture of sparse hair.

Pronotum outline as in *pumilus*, anterior area more coarsely asperate; surface shining, punctures moderately coarse, deep, rather close, each with a low, lateral, subcrenulate, transverse granule. Vestiture confined to margins, sparse, hairlike.

Elytral outline about as in *pumilus*; striae not impressed, punctures small, moderately deep; interstriae smooth, twice as wide as striae, punctures slightly smaller than those of striae, rather widely spaced. Declivity steep, rather broadly flattened; strial punctures deeper, slightly larger than on disc; interstriae 1 weakly elevated, 2 weakly depressed, punctures not at all granulate; ventrolateral margin rounded. Vestiture of interstitial rows of flattened bristles, each bristle slightly longer than distance between rows or within a row.

TYPE LOCALITY.—La Lima, Cortez, Honduras.

TYPE MATERIAL.—The male holotype and one male paratype were taken at the type locality on 5-V-64, 200 m elevation, No. 579, in *Cayaponia microdonta*, by S. L. Wood.

The holotype and paratype are in my collection.

Dendrocranulus vicinalis, n. sp.

This species is distinguished from *vicinalis* Wood by the much smaller strial and interstitial punctures, by the more gradual elytral declivity, and by the interstitial granules on the declivity.

MALE.—Length 1.5 mm (paratypes 1.6-1.7 mm), 2.9 times as long as wide; color yellowish brown.

Frons as in *vicinalis* except impression not as abrupt, impunctate area much smaller, small granules more conspicuous in lateral areas. Pronotum as in *vicinalis* except discal punctures slightly smaller, granules not as slender. Elytra as in *vicinalis* except strial and interstitial punctures smaller, very shallow; punctures on declivital interstriae 1-3 replaced by small granules.

FEMALE.—Similar to male except frontal impression not as strong, sculpture finer, vestiture finer, more abundant but not conspicuous.

TYPE LOCALITY.—Rio Damitas in the Dota Mountains, San José, Costa Rica.

TYPE MATERIAL.—The male holotype, female allotype, and one male paratype were taken at the type locality on 18-II-64, 250 m elevation, No. 441 (paratype 440), in an unidentified climbing vine, by S. L. Wood.

The holotype, allotype, and paratype are in my collection.

Dendrocranulus securus, n. sp.

This species is distinguished from *maurus* (Blandford) by the partly reticulate postero-lateral areas of the pronotum, by the reticulate, more finely punctured frons, and by the shorter, stout setae on declivital interstriae 1 and 2.

MALE.—Length 1.8 mm (paratypes 1.7-2.1 mm), 2.5 times as long as wide; color reddish brown.

Frons convex, a shallow, transverse impression from epistoma to upper level of eyes; surface reticulate, punctures moderately fine, deep, close, not at all granulate, less abundant near median line on lower half; vestiture sparse, hairlike.

Pronotum 1.1 times as long as wide; widest well behind middle, sides moderately arcuate on posterior half, feebly constricted one-third length from anterior margin, anterior margin rather narrowly rounded; asperities small, abundant; surface of disc and lateral areas subreticulate, punctures rather small, deep, a low, transverse, rounded granule lateral to each puncture. Vestiture fine, sparse, hairlike.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on less than basal two-thirds, posterior margin straight on median half; striae not impressed, punctures rather small, deep, close; interstriae almost smooth, twice as wide as striae, punctures fine, uniseriate, rather widely regularly spaced. Declivity steep; striae 1 weakly impressed; interstriae 1 weakly elevated; interstitial punctures minutely granulate; central half flattened, broadly convex in all marginal areas as in *maurus*. Vestiture of rows of minute, recumbent strial hair, and rows of erect, interstitial bristles; each bristle almost as long as distance between rows and between bristles within a row, slightly shorter and coarser than in *maurus*.

FEMALE.—Similar to male except frontal impression less distinct, vestiture very slightly more abundant.

TYPE LOCALITY.—Rio Damitas in the Dota Mountains, San José, Costa Rica.

TYPE MATERIAL.—The male holotype, female allotype, and 19 paratypes were taken at the type locality on 18-II-64, 250 m elevation, No. 446, from an unidentified climbing vine, by S. L. Wood. Four paratypes are from Playon, Puntarenas, Costa Rica, 22-II-64, 50 m, Nos. 454 and 455, and three paratypes are from Turrialba, Cartago, 9-III-64, 700 m, Nos. 460, 458, same host and collector.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus fulgidus, n. sp.

This species is distinguished from the closely allied *maurus* (Blandford) by the discal granules on the pronotum, by the narrower elytral declivity, by the more strongly impressed male frons, and by the more coarsely punctured female frons, with less abundant vestiture.

MALE.—Length 2.0 mm (paratypes 1.8-2.3 mm), 2.8 times as long as wide; color dark reddish brown, elytra lighter.

Frons as in *maurus* except transverse impression distinctly deeper, median summit on vertex slightly higher. Pronotum as in *maurus* except granules extend to impunctate median line; posterolateral areas reticulate. Elytra as in *maurus* except more slender, declivity narrower, strial punctures much smaller, not as deep, interstriae 2 more distinctly impressed, surface brightly shining; granules as in *maurus*; declivital setae on interstriae 1 and 2 very short, less than half as long as on 3 or on disc.

FEMALE.—Similar to male except frons planoconvex, more coarsely punctured on lateral thirds than in female *maurus*, vestiture fine, long, slightly less abundant than in female *maurus*.

TYPE LOCALITY.—Volcan de Chiriqui, near Cerro Punta, Chiriqui, Panama.

TYPE MATERIAL.—The male holotype, female allotype, and 97 paratypes were taken at the type locality on 11-I-64, 1800 m elevation, Nos. 378 (holotype and allotype), 408, and 418, from a cucurbit vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus vicinus, n. sp.

This species is distinguished from the very closely related *schedli* Wood by the less strongly impressed male frons, by the more coarsely

punctured, nongranulate female frons, with a tuft of abundant, fine, long, yellow hair, and by the larger granules in the median area of the pronotal disc.

MALE (allotype).—Length 1.5 mm (paratypes 1.4-1.7 mm), 3.0 times as long as wide; color yellowish to reddish brown.

Frons as in female *schedli*. Pronotum as in *schedli* except granules in median area of disc slightly larger and evidently never associated with punctures. Elytra as in *schedli* except striae 1 and 2 and interstriae 2 usually less strongly impressed.

FEMALE (holotype).—Similar to male except frons more broadly convex, more closely punctured, punctures not at all granulate, ornamented by a tuft of long, fine, abundant, yellow hair.

TYPE LOCALITY.—La Lima, Cortez, Honduras.

TYPE MATERIAL.—The female holotype, male allotype, and 20 paratypes were taken at the type locality on 5-V-64, 200 m elevation, No. 579, from *Cayaponia microdonta*, by S. L. Wood. Four paratypes are from La Ceiba, Atlantida, Honduras, 20, 29-V-49, at light, E. C. Becker.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus rudis, n. sp.

This species is allied to *cucurbitae* (LeConte), but it is distinguished by the slightly larger rugae on the pronotal disc, with the punctures obscure to obsolete, and by the less deeply excavated male frons with the median elevation on the vertex less well developed.

MALE.—Length 1.8 mm (paratypes 1.6-1.9 mm), 2.8 times as long as wide; color very dark brown.

Frons somewhat flattened, transversely impressed from epistoma to upper level of eyes, weakly ascending above; median elevation on summit rather well developed, highest at its dorsal extremity, descending below; surface smooth with an occasional fine puncture or minute granule; vestiture sparse, hairlike.

Pronotum 1.2 times as long as wide; widest just behind middle, sides rather strongly arcuate on posterior two-thirds, rather narrowly rounded in front; anterior third rather coarsely asperate, low, transverse crenulations continuing to base, some crenulations in median area associated with obscure punctures. Vestiture fine, long, moderately abundant.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal three-fourths, very broadly rounded behind; striae not impressed, punctures rather small, moderately impressed, spaced by about two diameters of a puncture; interstriae smooth, twice as wide as striae, equal in size and spacing to those of striae. Declivity steep, broadly flattened; striae 1 and 2 feebly impressed; interstriae 1 weakly elevated, 2 weakly impressed, lateral areas about as high as suture; interstitial punctures not granulate. Vestiture of rows of fine, short, recumbent, strial hair, and rows of erect interstitial bristles; each bristle rather slender, about one and one-fourth times as long as distance between rows, slightly shorter on declivital interstriae 1 and 2.

FEMALE.—Similar to male except frons rather coarsely punctate-granulate, granules mostly arranged in rugae, vertex devoid of median elevation; declivity more nearly convex, impressions and elevations obscure.

TYPE LOCALITY.—Nineteen km E Carapan, Michoacan, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 50 paratypes were taken at the type locality on 18-VI-65, 2300 m elevation, No. 75, in cucurbit vine, by S. L. Wood. One paratype is from 5 km W El Salto, Durango, Mexico, 7-VI-65, No. 32, cucurbit vine, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Dendrocranulus confinis, n. sp.

This species is distinguished from the very closely related *cucurbitae* (LeConte) by the subreticulate pronotal surface between crenulations on the disc and by the slightly shallower, more extensive frontal excavation of the male.

MALE.—Length 2.0 mm (paratypes 1.5-2.0 mm), 2.7 times as long as wide; color very dark reddish brown, pronotum black in some specimens.

Frons as in *cucurbitae* but very slightly less strongly excavated, impression extending higher in lateral areas, median projection on vertex equal in size. Pronotum as in *cucurbitae* except discal punctures slightly larger, surface subreticulate, evidently less irregular. Elytra as in *cucurbitae* except discal punctures very slightly larger.

FEMALE.—Similar to male except frons broadly convex, a slight transverse impression

just above epistoma; surface subreticulate, punctures rather small, shallow, vestiture sparse; declivity more evenly convex, interstriae 2 not as strongly impressed.

TYPE LOCALITY.—Volean de Chiriqui, near Cerro Punta, Chiriqui, Panama.

TYPE MATERIAL.—The male holotype, female allotype, and 38 paratypes were taken at the type locality on 11-I-64, 1800 m, No. 378, from a eueurbit vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Ips borealis lanieri, subsp. n.

This subspecies is distinguished from *borealis borealis* Swaine by the almost evenly convex female frons, which is sparsely granulate and finely punctured below the upper level of the eyes, and by the transverse row of epistomal granules. It is much more similar to *b. thomasi* Hopping, but it is distinguished by the shorter, finer, less abundant vestiture of the female frons, which is also less strongly inflated, and the granules average much smaller in size.

FEMALE.—Length 3.5 mm (paratypes 3.0-3.8 mm), 2.6 times as long as wide; color very dark brown to almost black.

As in *b. borealis* except for sculpture and ornamentation of female frons as cited in the above diagnosis; entire frons with small, distinct punctures, on lower half intermixed with several small granules.

MALE.—Similar to female except frontal punctures and granules much larger, more numerous.

TYPE LOCALITY.—One mile south of Brownsville, Lawrence County, South Dakota.

TYPE MATERIAL.—The female holotype, male allotype, and 61 paratypes were taken at the type locality on 18-VI-68, No. 47, *Picea glauca*, by S. L. Wood. Additional paratypes were taken as follows: 21 from 2 miles SW Lead, Lawrence Co., South Dakota, 18-VI-68, No. 48, *Picea glauca*, S. L. Wood; 7 from SE $\frac{1}{4}$ S6, T4N, R3E, Black Hills, South Dakota, 17-VIII-67, *Picea glauca*, J. M. Schmidt; 5 from 6 miles SW Buffalo, Johnson Co., Wyoming, 20-VI-68, No. 58, *Picea engelmanni*, S. L. Wood; 6 from about 20 miles NW Pagosa Spring, Hinsdale Co., Colorado, 28-VI-68, *Picea engelmanni*, W. G. Harwood.

The holotype, allotype, and paratypes are in my collection.

Gnathophthorus artus, n. sp.

This species is distinguished from the five previously named species by the smaller size, by the simple declivity, and by the very broadly impressed female frons with much more abundant and longer frontal vestiture.

FEMALE.—Length 1.05 mm (paratypes 0.9-1.05 mm), 4.3 times as long as wide; color of pronotum and declivity rather dark yellowish brown, basal area of elytra pale yellowish brown.

Frons rather shallowly, subcircularly concave from eye to eye, from epistoma to vertex; margins of upper half bearing a dense row of very long hair, lower area appearing spongy and bearing a few moderately long setae; surface largely concealed by vestiture. Antennae small; club distinctly longer than scape, anterior face glabrous, clearly marked by two almost straight, partly septate sutures.

Pronotum 1.84 times as long as wide; subquadrate, sides straight and parallel more than three-fourths of their length, anterior margin feebly arcuate, weakly serrate; anterior tenth weakly declivous, anterior third finely asperate; posterior areas smooth, shining, minutely, shallowly, rather closely punctured. Glabrous.

Elytra 2.4 times as long as wide, 1.4 times as long as pronotum; sides straight and parallel on basal three-fourths, moderately rounded behind; striae not impressed, punctures minute; interstriae four to five times as wide as striae, punctures similar in size and spacing to those of striae. Declivity moderately steep, narrow; sutural interstriae distinctly elevated, convex; punctures of striae 2 and 3 fine, distinct, rather widely spaced on 3; interstriae 2 broad, flat, smooth, shining, with only four or five minute punctures, 3 not elevated or serrate. Vestiture confined to declivity, sparse; consisting of rather fine interstitial bristles on interstriae 3 and on lateral areas, smaller, similar setae on interstriae 1.

MALE.—Similar to female except frons mostly convex, a short, transverse earina at upper level of eyes and immediately below this a small, shallow concave area on median fourth, surface shining, rather closely, coarsely punctured, vestiture of sparse, short hair; ten serrations on anterior margin of pronotum slightly larger; elytral declivity, shallowly, broadly bisulate, interstriae 3 very feebly elevated.

TYPE LOCALITY.—About 260 km N Xavantina, Mato Grosso, Brasil (12°49' S 41°46' W).

TYPE MATERIAL.—The female holotype, male allotype, and 12 paratypes were taken at the

type locality on X-1968, No. F41, by R. A. Beaver. One paratype bears the same data except 23-IX-68, No. 166.

The holotype, allotype, and five paratypes are in the British Museum (Natural History), two paratypes are in the Museu de Zoologia, Universidade de São Paulo, and six paratypes are in my collection.

Dryocoetoides Hopkins

Dryocoetoides Hopkins, 1915, U.S. Dept. Agric. Rept. 99:52 (Type-species: *Dryocoetoides guatemalensis* Hopkins = *Xyleborus capucinus* Eichhoff)

This neotropical genus was placed in synonymy by Schedl (1952, Ent. Blätt. 47-48:161) and, presumably because of the lack of material or interest, it has not been seriously reconsidered since then. The type-species clearly is a representative of the *Xyleborini*. Contrary to the action of Schedl of placing virtually all representatives of this tribe in one enormous genus, *Xyleborus*, I prefer to elevate certain clearly marked groups to generic rank in order to make them more meaningful and to make *Xyleborus* less unwieldy.

Dryocoetoides has the prothoracic tibia inflated and tuberculate on its posterior face; the antennal club is rather strongly flattened, with the basal area slightly thickened and moderately corneous, two clearly marked, almost straight sutures are on the basal half of the anterior face and both continue to and are clearly marked on the distal half of the posterior face; in most species the eyes are rather large and coarsely faceted; the scutellum is flat and moderately large; the pronotum is rather stout, about as long as wide, and armed by several serrations on the anterior margin; and the elytral disc and declivity usually have contrasting sculpture.

In addition to *Xyleborus capucinus* Eichhoff, the following species are transferred into *Dryocoetoides*: *Xyleborus monachus* Blandford, *Bostrichus flavus* Fabricius, *Bostrichus cristatus* Fabricius (= *Xyleborus solitarius* Hagedorn, *X. urichi* Eggers, *X. crenatus* Eggers), and *Xyleborus pseudosolitarius* Eggers. Seven previously undescribed species are added below.

Dryocoetoides monachus (Blandford), n. comb.

Xyleborus monachus Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):204 (Syntypes, males; Cerro Zunil, Guatemala; British Mus. Nat. Hist.).

This species was named from two male syntypes and has not been reported in the literature since then.

Four females were collected at Paulin, Esquintla, Guatemala, 19-V-64, 300 m, No. 584, from *Inga* branches; 21 females from Rancho Grande, Pittier National Park, Aragua, Venezuela, 9-IV-70, 1100 m, No. 408, tree seedling; one female from 24 km E Barbosa, Antioquia, Colombia, 18-VII-70, 1200 m, No. 696, from a Rubiaceae sapling; all were taken by me. The Guatemalan specimens and several males of the very closely related *capucinus* (Eichhoff) were compared to both of Blandford's male syntypes. In general form and sculpture the types (2.7-2.9 mm) were exactly as the male *capucinus* (2.3-2.5 mm) except for the body size and details of the elytral structure. The elytral structure and larger size conformed to that of the Guatemalan females. Since there are no other known species in Guatemala with which *monachus* could be confused, I am confident the association is correct even though males were not taken in my series.

Females of this species differ from those of *capucinus* by the larger size (2.8-3.2 mm, compared to 2.2-2.6 mm for *capucinus*), by the longer elytral disc (50 percent of elytral length, compared to 40 percent), by the more shining elytral declivity with some reticulation in the posterolateral areas, and by the more nearly uniseriate interstitial granules on the elytral declivity.

Dryocoetoides verrucosus, n. sp.

This species is distinguished from *flavus* (Fabricius) by the more slender form, by the smaller striae punctures, by the rugose-reticulate, dull, dark, elytral declivity, and by the very different declivital sculpture.

FEMALE.—Length 2.5 mm (paratype 2.4 mm), 3.2 times as long as wide; color reddish brown, elytra much darker.

Frons and pronotum as in *flavus* except pronotum 1.2 times as long as wide.

Elytra 1.9 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, tapered then narrowly rounded behind; striae not impressed, punctures very small, very shallow, spaced within a row by two diameters of a puncture; interstriae smooth, shining, about six times as wide as striae, punctures almost as large as striae, uniseriate except slightly confused on 2. Declivity occupying posterior third of elytral length, convex; surface minutely rugose-reticulate; striae feebly impressed, punctures slightly larger than on disc, feebly impressed; interstriae uniseriately, rather coarsely tuberculate, except

at base and lower half of sutural interstriae; sutural interstriae from just above middle to just before apex very strongly, irregularly elevated, elevation as high as wide; interstriae 2 and 3 slightly sinuate to accommodate sutural elevation. Vestiture confined to declivity, consisting of minute strial hair and confused, semi-recumbent interstitial setae, each slightly shorter than width of an interstriae.

TYPE LOCALITY.—Thirty km E Palmar, Bolivar, Venezuela.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 12-VI-70, 200 m, No. 579, from a tree known locally as Rosada (Moraceae), by S. L. Wood. One female paratype is from 3 km NE Crele, Barinas, Venezuela, 18-XII-69, 150 m, No. 203, *Inga*, S. L. Wood.

The holotype and paratypes are in my collection.

Dryocoetoides pileatus, n. sp.

This species is distinguished from the closely allied *capueinus* (Eichhoff) by the much larger size, by the much shorter elytral disc, by the more gradual elytral declivity, and by the absence of strial punctures on the declivity.

FEMALE.—Length 3.2 mm (paratypes 3.2-3.3 mm), 2.1 times as long as wide; color almost black.

Frons and pronotum as in *capueinus* except surface of disc less strongly reticulate, punctures deeper.

Elytra 1.1 times as long as wide, 1.3 times as long as pronotum; disc occupying 30 percent of elytral length, transition from disc to declivity rather abrupt; striae not evident, surface smooth, shining, punctures variable, small to very small, close, confused. Declivity gradual, convex; surface minutely rugulose, dull; striae and strial punctures entirely obsolete, numerous small, rounded, confused, scitiferous granules; subapical posterolateral margin acutely, subrenulately elevated from suture to position of interstriae 8. Vestiture confined to declivity, consisting of moderately abundant, short hair.

TYPE LOCALITY.—Forty km SE Socopo, Barinas, Venezuela.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 25-I-70, 150 m elevation, No. 263, in *Inga* limb, by S. L. Wood; four female paratypes are from 10 km SE Miri, Barinas, Venezuela, 8-II-70, 150 m elevation, No. 295, in *Inga* limbs, by S. L. Wood; one female paratype is

from 17 km SE Miri, Barinas, Venezuela, 17-XII-69, 150 m elevation, No. 197, from a palm bole 15 cm in diameter, by S. L. Wood.

The holotype and paratypes are in my collection.

Dryocoetoides velutinus, n. sp.

This species is placed in a species group with *pseudosolitarius*, although the relationship is not close. It is distinguished by the larger size, by the stouter body form, and by the steeper elytral declivity that has different sculpture.

FEMALE.—Length 2.8 mm (paratypes 2.7-2.9 mm), 2.4 times as long as wide; color reddish brown.

Frons and pronotum as in *pseudosolitarius*; pronotum 1.1 times as long as wide.

Elytra 1.4 times as long as wide, 1.3 times as long as pronotum; disc occupying basal two-thirds of elytra; striae not impressed except 1 slightly near declivity, punctures very small, shallow, spaced within row by three diameters of a puncture; interstriae smooth, shining, about six times as wide as striae, punctures minute, half as large as those of striae, confused; declivital sculpture commencing on posterior third of disc. Declivity steep, broadly convex; surface minutely rugulose; strial punctures small but larger and deeper than on disc; interstriae with abundant, rather coarse, pointed, confused tubercles; lower half of sutural interstriae moderately protuberant; subapical posterolateral margin subacutely subrenulately from suture to interstriae 8. Vestiture of fine, abundant, moderately long hair on disc and declivity.

MALE.—Length 2.8 mm; essentially as in female, but with all characters less perfectly formed except pronotum 1.3 times as long as wide, excavated as in male *perebeae* (Ferrari) except median tubercle on anterior margin very broad.

TYPE LOCALITY.—Thirty km E Palmar, Bolivar, Venezuela.

TYPE MATERIAL.—The female holotype, male allotype, and 21 female paratypes were taken at the type locality on 12-VI-70, 200 m, No. 538, from the bole 30 cm in diameter of a tree locally named Pandanga, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Dryocoetoides rusticus, n. sp.

This species is distinguished from *velutinus* Wood by the larger size, by the confused punctures

tures on the discal interstriae, by the more gradual clytral declivity, with much finer interstitial tubercles, and by the much coarser vestiture.

FEMALE.—Length 3.5 mm (estimated, elytra spread), about 2.4 times as long as wide; color reddish brown.

Frons as in *velutinus* but much narrower due to enlarged eyes. Pronotum as in *velutinus* except punctures on disc closer.

Elytra about 1.4 times as long as wide; elytral disc as in *velutinus* except all punctures deeper, interstitial punctures more numerous, confused, minute, irregular surface lines present. Declivity much as in *velutinus*, surface rugulose, more evenly, more gradually convex; stria punctures larger than in *velutinus*, interstitial tubercles more numerous, much smaller, weakly protuberant toward apex of suture; subapical ventrolateral margin acutely elevated from suture toward but becoming obsolete on interstriae 8, not connected to but continuing toward base of declivity as a row of suberemulate tubercles. Vestiture confined to declivity and sides; consisting of very stout, short bristles on central and lower parts of declivity, some setae on lateral and upper parts of declivity at least twice as long and tapered.

TYPE LOCALITY.—Thirty km E Palmar, Bolivar, Venezuela.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 12-VI-70, 100 m elevation, No. 582, from an unidentified tree limb, by S. L. Wood.

The holotype is in my collection.

Dryocoetoides severus, n. sp.

Among known forms this species is allied to *rusticus* Wood, but it is distinguished by the large size, by the subquadrate pronotum, and by the very different sculpture of the elytral declivity.

FEMALE.—Length 5.0 mm, 2.6 times as long as wide; color reddish brown; head and prothorax detached and mounted separately on the same paper point as body.

Frons as in *rusticus* but narrower, 1.8 times as wide as width of eye. Pronotum 1.0 times as long as wide; subquadrate; sculpture essentially as in *rusticus*.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal three-fourths, obtusely subangulate behind; disc occupying basal three-fourths; basal half of disc as in *rusticus*; posterior half of disc

with surface smooth, shining, punctures replaced by rounded granules. Declivity steep, broadly convex; a large, low, conspicuous, rounded prominence at basal margin on interstriae 2; declivital surface smooth, almost shining; sutural interstriae slightly elevated on lower half, impressed toward base; area of striae 1 impressed to middle, area lateral to striae 1 on upper half gradually elevated toward prominence at base on interstriae 2; interstriae 1 with small confused tubercles toward apex, others with a few tubercles on basal half only; stria punctures much larger and slightly deeper than on disc; subapical ventrolateral margin acutely, suberemulately elevated from apex to apex of interstriae 8. Vestiture confined to posterior half of elytra; consisting of fine long hair except much shorter on lower half of declivity.

TYPE LOCALITY.—Thirty km E Palmar, Bolivar, Venezuela.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 12-VI-70, 200 m, No. 548, from *Eschweilera subglanulosa*, by S. L. Wood.

The holotype is in my collection.

Dryocoetoides insculptis, n. sp.

This species is distinguished from the rather remotely related *velutinus* Wood by the larger size, by the strongly impressed declivital striae, by the much less abundant elytral vestiture, and by other characters.

FEMALE.—Length 4.2 mm (paratypes 4.0-4.2 mm), 2.6 times as long as wide; color reddish brown.

Frons essentially as *velutinus* except not as wide due to enlarged eyes.

Pronotum 1.2 times as long as wide; about as in *velutinus* except sides almost straight and parallel on basal two-thirds, broadly rounded in front; anterior margin armed by 14 low serrations; disc shining, lateral areas reticulate, punctures very small, deep, moderately abundant.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; disc occupying basal three-fourths; sides straight and parallel on basal three-fourths, rather narrowly rounded behind; striae feebly impressed on basal half, punctures small, rather deep; interstriae on basal half of disc smooth, shining, about three times as wide as striae, punctures very small, confused; declivital sculpture commencing just behind middle of disc. Declivity confined to posterior fourth of elytra, steep, convex; strongly reticulate, dull; striae very deeply impressed, punc-

tures slightly larger than on disc, shallow; interstriae rather strongly convex, uniseriately rather coarsely serrate, tubercles much smaller on lower half of declivity; sutural interstriae moderately protuberant on lower half of declivity. Vestiture confined to reticulate area; consisting of fine, short, strial hair and an occasional similar interstitial hair, and rows of coarse, erect bristles arising from posterior margins of serrations, each bristle about as long as distance between rows.

TYPE LOCALITY.—Eight km S Colonia (near Buenaventura), Valle de Cauca, Colombia.

TYPE MATERIAL.—The female holotype and eight female paratypes were taken at the type locality on 9-VII-70, 30 m elevation, No. 605, in limbs of *Humistrum excelsum*, by S. L. Wood.

The holotype and paratypes are in my collection.

Dryocoetoides indolatus, n. sp.

This species is distinguished from the allied *insculptus* Wood by the slightly smaller size, by the more nearly subquadrate pronotum, by the unimpressed declivital striae, by the finer interstitial tubercles, and by the vestiture.

FEMALE.—Length 3.7 mm, 2.6 times as long as wide; color reddish brown.

Frons as in *insculptus* but narrower. Pronotum subquadrate, serrations on anterior margin poorly developed; sculpture essentially as in *insculptus*.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; disc occupying basal half of elytral length; striae not impressed, punctures very small, spaced within a row by one or two diameters of a puncture; interstriae smooth, shining, with shallow, irregular lines, punctures about equal in size to those of striae, confused. Declivity very gradual on its basal half, steep and convex on its posterior half; entire surface closely, finely rugose, dull; striae not impressed, punctures twice as large as on disc, very shallow; interstitial punctures replaced by fine, confused tubercles, slightly larger on basal half of convex area; sutural interstriae weakly protuberant toward apex; subapical posterolateral margin acutely costate near suture, beoming subrenulate toward interstriae 8. Vestiture confined to sides and declivity, consisting of fine, long, moderately abundant, confused, interstitial hair; minute strial hair also present on declivity.

TYPE LOCALITY.—Thirty km E Palmar, Bolívar, Venezuela.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 12-VI-70, 200 m, No. 578, from *Parinari excelsa*, by S. L. Wood.

The holotype is in my collection.

Sampsonius expulsus, n. sp.

This species apparently is more closely allied to *detractus* Wood than to other described species, but it is readily distinguished by the longitudinally concave elytral declivity and by the absence of declivital spines.

FEMALE.—Length 5.1 mm, 3.4 times as long as wide; color reddish brown.

Frons, pronotum and elytral disc as in *detractus*. Elytral declivity slightly longer than disc, its surface reticulate; base of declivity rather abruptly impressed, basal and lateral margins continuously, finely serrate from interstriae 2 to near sutural apex; face of declivity longitudinally concave, broadly flattened to serrate margins, suture rather strongly elevated particularly on lower half; interstriae 3 weakly elevated on lower half. Vestiture of fine, moderately long, rather abundant hair; only slightly longer on declivity.

TYPE LOCALITY.—Eight km S Colonia (near Buenaventura), Valle de Cauca, Colombia.

TYPE MATERIAL.—The female holotype was taken at the type locality on 9-VII-70, at 30 m elevation, No. 619, from a *Pouteria* branch, by S. L. Wood.

The holotype is in my collection.

Sampsonius detractus, n. sp.

The large size and the presence of one pair of long slender spines near the apex of declivital interstriae 3 distinguish this species from other representatives of the genus.

FEMALE.—Length 5.6 mm (paratype 5.8 mm), 3.6 times as long as wide; color reddish brown.

Frons narrow, broadly convex; surface reticulate, with small, low, rather abundant, shining granules; vestiture of sparse, fine, long hair. Eye large, emarginate, very coarsely faceted, 1.9 times as long as wide. Antennal club subcircular, rather strongly flattened, sutures 1 and 2 rather strongly procurved, 2 reaching slightly beyond middle; one strongly procurved suture near apex on posterior surface.

Pronotum 1.4 times as long as wide; sides feebly arcuate and subparallel on posterior two-thirds, narrowly produced on anterior third to

two very coarse, close serrations arming anterior margin, two pairs of small serrations lateral to major ones; summit indefinite, about one-third length from anterior margin; anterior third moderately asperate; posterior areas smooth, shining, minutely, rather sparsely punctured; lateral margins abrupt. Vestiture of sparse, fine hair, slightly coarser and longer on asperate area.

Elytra 2.1 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal three-fourths, slightly narrowed, then truncate on median two-thirds; discal striae not impressed, punctures very small, distinct; interstriae smooth, shining, about four times as wide as striae, punctures almost uniseriate, minute. Declivity occupying posterior 46 percent of elytral length, gradual basal margin abruptly impressed and irregularly, finely serrate from interstriae I to posterolateral apical angle; surface reticulate; sutural interstriae not elevated or armed; interstriae 3 posterior to middle broadly elevated and slightly higher than suture, decending to moderate impression just mesad of serrate lateral margin; armed just before apex of interstriae 3 by a pair of very large, subcylindrical spines, each four times as high as wide, equal in length to discal distance from suture to striae 4. Vestiture of fine, moderately long hair on disc and sides, very much longer and slightly more abundant on declivity.

TYPE LOCALITY.—Madden Forest, Canal Zone, Panama.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 2-I-64, 70 m elevation, No. 367, from a tree limb, by S. L. Wood.

The holotype and paratype are in my collection.

Sampsonius usurpatus, n. sp.

This species is distinguished from the closely allied *dampfi* Schedl by the larger size, by the longer elytral declivity, by the declivital suture being lower than the lateral convexities, and by the much smaller, contiguous spines near the sutural apex on the elytral declivity.

FEMALE.—Length 4.1 mm (paratypes: females 4.0-4.4 mm; males 2.8-3.3 mm), 3.8 times as long as wide; color reddish brown.

Frons as in *detractus* Wood except slightly narrower. Pronotum as in *detractus*.

Elytra 2.2 times as long as wide; outline as in *detractus* except tapered posteriorly, subtrun-

cate on less than median half; disc and general contour of declivity as in *detractus* except basal margin gradual, denticles smaller, more scattered; apex of interstriae 3 entirely unarmed; sutural interstriae armed by contiguous, subapical, pointed processes about as high as their longitudinal base, height about equal to width of discal interstriae, positioned as in *dampfi* but much smaller. Vestiture as in *detractus*.

MALE.—Dwarfed, head concealed by prolongation of pronotum; pronotum longer than elytra, 1.7 times as long as wide, its anterior three-fifths broadly, rather deeply concave, anterior margin narrowly biemarginate giving appearance of a median and two lateral dentations; elytra similar to female but characters poorly formed, more convex, devoid of subapical spine.

TYPE LOCALITY.—Turrialba, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 23 paratypes were collected at the type locality on 9-III-64, at 700 m elevation, No. 460B, from a cut tree seedling, by S. L. Wood. Other paratypes were taken in Costa Rica as follows: two from San Ignacio de Acosta, 5-VII-63, 1500 m, No. 38, tree seedling, S. L. Wood; three from Finca Gromaco on Rio Coto Brus, Puntarenas, 14-VII-63, 500 m, No. 76, tree seedling, S. L. Wood; one from Rincon de Osa, Puntarenas, 11-VIII-66, 30 m, No. 68, tree branch, S. L. Wood. One paratype is from El Hato del Volcan, Chiriqui, Panama, 11-I-64, 2800 m, No. 374, tree branch, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Xyleborus (Theoborus) pristis, n. sp.

The antennal club of this species clearly is as in *theobromae* Hopkins, but the relationship is not close. It differs from *theobromae* by the more slender form, by the less strongly serrate anterior margin of the pronotum, by the more broadly convex elytral declivity, and by the different sculpture of the elytral declivity.

FEMALE.—Length 1.8 mm (female paratypes 1.7-2.0 mm), 2.6 times as long as wide; color very dark brown.

Frons broadly convex, a weak, narrow, transverse impression just above epistoma; surface strongly reticulate, punctures sparse, obscure, coarse; vestiture of sparse, fine, inconspicuous, long hair.

Pronotum 1.04 times as long as wide; essentially as in *theobromae* except surface more

strongly reticulate, including in anterior area between asperities, and anterior margin weakly serrate. Vestiture of fine, rather short hair on sides and asperate area, disc almost glabrous.

Elytra 1.3 times as long as wide; sides almost straight and parallel on basal three-fourths, rather narrowly rounded behind, serrate near weakly, narrowly emarginate suture; striae not impressed, punctures minute, shallow, distinct, spaced within a row by three to four diameters of a puncture; interstriae smooth, shining, about eight times as wide as striae, punctures uniseriate, almost indistinguishable from those of striae. Declivity confined to posterior fourth, steep, broadly convex; striae 1 weakly, others feebly impressed, punctures slightly larger, deeper and much closer than on disc; interstriae with punctures closer and uniseriately granulate, granules often obsolete near apex; suture narrowly emarginate, margin with a row of two to four coarse cusps near suture, this row continued along margin as four to eight somewhat smaller granules, margin rather narrowly rounded to interstriae 8. Vestiture confined to sides and declivity; on declivity consisting of rows of fine hair; strial hair short; interstitial hair two to two and one-half times as long as distance between rows.

MALE.—Length 1.5-1.8 mm; essentially as in female, but with characters more poorly formed, and pronotum 1.4 times as long as wide and essentially as in male *theobromae*.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 2-VII-63, 1300 m, No. 9, from *Miconia*, by S. L. Wood; three paratypes are from the same locality, 17-IX-63, No. 184, from *Miconia caudata* 10 cm in diameter. Four female paratypes were taken at Volcan, Puntarenas, Costa Rica, 11-XII-63, 1000 m, No. 305 in "luarumo" and No. 308 in a tree limb, by S. L. Wood; six additional paratypes bear this same data except they are No. 308, from a tree limb. The male allotype and 44 paratypes were taken 6 km S San Vito, Puntarenas, Costa Rica, 13-21-III-67, from a dead, standing tree.

The holotype, allotype, and paratypes are in my collection.

Xyleborus (Theoborus) micarius, n. sp.

This species is closely related to *pristis* Wood, but it is distinguished by the slightly larger, more closely spaced strial punctures, by

the more gradual, more broadly arched elytral declivity, by the smaller cusps near the suture on the ventrolateral margin of the declivity, and by the very stout, short, declivital setae.

FEMALE.—Length 1.8 mm (female paratypes 1.8-2.0 mm), 2.7 times as long as wide; color very dark brown.

Frons and pronotum as in *pristis* except pronotum outline somewhat more subquadrate and 1.1 times as long as wide.

Elytra 1.5 times as long as wide; outline essentially as in *pristis*, disc as in *pristis* except strial punctures slightly larger, spaced within a row by two to three times diameter of a puncture; interstriae about five to six times as wide as striae, punctures uniseriate, distinctly smaller than those of striae. Declivity occupying 50 percent of strial length, more gradual and more broadly convex than in *pristis*; sculpture as in *pristis* except posterolateral margin subacute, its summit rather weakly crenulate from weak sutural emargination to interstriae 7. Vestiture of rows of strial and interstitial setae, finer and shorter on disc; declivital strial hair very fine and short, interstitial setae coarse, blunt, each about one to one and one-half times as long as distance between rows.

TYPE LOCALITY.—Guapiles, Limon, Costa Rica.

TYPE MATERIAL.—The female holotype and seven female paratypes were taken at the type locality on 22-VII-66, 100 m elevation, No. 120, from a branch of *Cordia* sp. 5 cm in diameter, by S. L. Wood; three female paratypes bear the same data except No. 117 from a palm log. One female paratype was taken at Tapanti, Cartago, Costa Rica, 17-IX-63, 1300 m elevation, No. 182, from a tree branch, by S. L. Wood.

The holotype and paratypes are in my collection.

Xyleborus bicornutus, n. sp.

This species is very closely related to *ebenus* Wood, but it is distinguished by the larger average size, by the more strongly impressed upper half of the declivity, by the different arrangement of minor elytral denticles, and by the larger, longer major declivital spine.

FEMALE.—Length 3.8 mm (paratypes 3.6-4.0 mm), 2.0 times as long as wide; color dark brown to black.

Frons and pronotum as in *ebenus*. Elytra as in *ebenus* except upper third of declivity more strongly impressed; denticles on interstriae 3 at base of declivity larger, 2-6 in number (2 in

ebenus), extending posterior to level of spine of interstriae 2; major spine slightly larger, its basal area less extensive; punctures on declivital face more sharply defined, slightly larger, entire surface smooth, shining (some impressed points at base and extreme lateral areas in *ebenus*).

MALE.—Similar to male *ebenus* except lateral margin of declivity armed by four spines of almost equal size on left side, six spines (abnormal?) on right side.

TYPE LOCALITY.—Seventeen km SE Miri, Barinas, Venezuela.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 17-XII-69, 150 m elevation, No. 195, in *Protium* sp., by S. L. Wood; the male allotype, one male and 23 female paratypes are from 30 km N Cañon Zancudo, Zulia, Venezuela, 4-IV-70, 10 m, No. 515, from a tree sapling, by S. L. Wood. Other paratypes were taken in Venezuela as follows: 7 from 40 km E Canton, Barinas, 8-III-70, 70 m, tree seedlings; 13 from 40 km SE and 7 km NW of Socopo, Barinas, 25-I-70, 13-II-70, from *Inga*, *Hirtella triandra*, *Rheedia madruno*, *Nectandra* sp., and *Protium*; 3 from 20 km SW El Vigia, Merida, 21-XI-69, 12-VI-70, 10-XII-69, from various hosts; and 1 from Rancho Grande, Aragua, 9-IV-70, 1100 m, tree sapling. Three paratypes are from Campo Capote, 27 km NE Montoya, Santander, Colombia, 2-VII-70, 150 m, tree sapling. One paratype is from 30 km E Palmar, Bolivar, 12-VI-70, 200 m, *Brownia* sp. All were taken by me.

The holotype, allotype, and paratypes are in my collection.

Xyleborus crintulus, n. sp.

Although not closely related, this species is distinguished from the allied *micarius* Wood by the larger size, by the more closely, more deeply punctured pronotal disc, by the confused discal interstitial punctures, and by the steeper elytral declivity that has different sculpture.

FEMALE.—Length 2.2 mm (paratypes 1.9-2.3 mm), 2.3 times as long as wide; color rather dark reddish brown.

Frons as in *micarius* except with moderately numerous, small, rounded granules. Pronotum as in *micarius* except serrations on anterior margin larger and punctures on disc more numerous and deeper.

Elytra 1.3 times as long as wide, 1.2 times as long as pronotum; striae not impressed, punctures

small, rather shallow, spaced within a row by one or two times diameter of a puncture; interstriae four to five times as wide as striae, shining, with irregular lines, punctures fine, moderately deep, confused on basal two-thirds, uniseriate toward declivity. Declivity steep, broadly convex, occupying 42 percent of elytral length; striae punctures almost twice as large as on disc; interstriae uniseriate tuberculate, tubercles rather widely spaced, pointed, moderately fine except rather coarse on lower half of I; suture slightly produced just before apex; subapical posterolateral margin acutely, subcrenulate elevated from suture to interstriae 8. Vestiture hairlike, rather abundant, of variable length, mostly rather short.

TYPE LOCALITY.—Forty km SE Socopo, Barinas, Venezuela.

TYPE MATERIAL.—The female holotype and 17 female paratypes were collected at the type locality on 25-I-70, 150 m elevation, No. 280, from a dead branch of *Hirtella triandra* 3-5 cm in diameter, by S. L. Wood. One paratype was taken at Barro Colorado Island, Canal Zone, Panama, 27-XII-63, 70 m, No. 345, from a tree branch, by S. L. Wood; and two paratypes are labeled Fort Clayton, Canal Zone, Panama, 22-XII-63, 30 m, No. 317, tree branch, S. L. Wood.

The holotype and paratypes are in my collection.

Xyleborus pandulus, n. sp.

This rather common species has been incorrectly identified by Schedl and others as *varians* (Fabricius). It differs from *varians* by the smaller average size, by the steeper elytral declivity, by the flatter lower half of the declivity with its ventrolateral margin subacutely elevated and its face irregular and closely, coarsely punctured.

FEMALE.—Length 2.7 mm (paratypes 2.7-3.0 mm), 2.0 times as long as wide; color dark brown, almost black.

Frons and pronotum as in *perebeae* (Ferrari) except each minute puncture on pronotal disc with a minute, smooth, shining spot on its posterior margin.

Elytral 1.0 times as long as wide, 1.06 times as long as pronotum; disc limited to basal half; disc as in *perebeae* except striae punctures slightly smaller. Declivity abruptly impressed at base, steep, rather broadly, deeply excavated on upper half; lower half more broadly flattened and with its abrupt lateral margin weakly elevated; basal margin abrupt, armed by about 4-8 small, pointed denticles scattered from inter-

striae 1-3; margin at interstriae 3 bearing large, stout, pointed conical spine one-fourth declivital length from basal margin, a large setiferous pore just below its apex; interstriae 4 with four to six small, pointed denticles on and just before declivital margin, 5 with similar denticles extending along margin to or near sutural apex; declivital face closely, deeply, rather coarsely punctured, surface subshining, somewhat irregular. Vestiture limited to stout, scalelike bristles on margin and sides of declivity.

TYPE LOCALITY.—Fort Clayton, Canal Zone, Panama.

TYPE MATERIAL.—The female holotype and nine female paratypes were taken at the type locality on 22-XII-63, 30 m elevation, No. 320, from a broken tree limb, by S. L. Wood. Other female paratypes were taken as follows: 3 at Madden Forest, Canal Zone, Panama, 2-I-64, 70 m, Nos. 364, 367, tree limb, S. L. Wood; 1 at Limon Bay, Canal Zone, 30-XII-63, 5 m, No. 354, tree branch, S. L. Wood; 2 at Dominical, Puntarenas, Costa Rica, 9-XII-63, 3 m, No. 301, tree branch, S. L. Wood; 3 at Boston, Limon, Costa Rica, IX-64, *Theobroma cacao*, J. L. Saunders; and 1 at Finca La Lola, Limon, Costa Rica, VIII-63, *Theobroma cacao*, J. L. Saunders.

The holotype, allotype, and paratypes are in my collection.

Xyleborus varulus, n. sp.

This species is almost identical to *pandulus* Wood, but it may be distinguished by the densely placed minute, impressed points on the elytral declivity on the surfaces between the usual punctures, by the larger average size, by the slightly smaller declivital denticles (the major spine is usually more slender), and by the shorter scales on the margins and sides of the elytral declivity.

FEMALE.—Length 3.2 mm, 2.1 times as long as wide; exactly as in *pandulus* Wood except as noted in the above diagnosis.

TYPE LOCALITY.—Thirteen km SW El Vigia, Merida, Venezuela.

TYPE MATERIAL.—The female holotype and five female paratypes were taken at the type locality on 22-X-69, 100 m elevation, No. 76, from *Inga* branches, by S. L. Wood. Other female paratypes were taken as follows: 4 at 20 km SW El Vigia, 10-XII-69, 50 m, various hosts, S. L. Wood; and 1 at 8 km S Colonia (near Buenaventura), Valle de Cauca, Colombia, 9-VII-70, 30 m, No. 636, *Protium nervosum*, S. L.

Wood; 2 at 27 km NE Montoya (Campo Capote), Santander, Colombia, 2-VII-70, 150 m, No. 583, tree sapling, S. L. Wood.

It is entirely possible that this form represents only a subspecies of *pandulus*; insufficient material is available to make an evaluation at this time.

The holotype, allotype, and paratypes are in my collection.

Xyleborus sharpi lenis, subsp. n.

This subspecies is distinguished from *s. sharpi* Blandford by the absence of the abundant, minute, impressed points on the elytral declivity, and by the more northern distribution.

FEMALE.—Length 3.5 mm, 2.0 times as long as wide; color dark brown. Essentially as in *s. sharpi* except declivital surface almost smooth, punctures very fine, impressed points essentially absent. Entire declivity in *s. sharpi* densely covered by minute impressed points.

TYPE LOCALITY.—Twenty-nine km or 18 miles E Coatzacoalecos, Veracruz, Mexico.

TYPE MATERIAL.—The female holotype was taken at the type locality on 26-VI-67, 30 m, No. 104, from a tree limb, by S. L. Wood.

The holotype is in my collection.

Xyleborus palatus, n. sp.

This species is remotely allied to *squamulatus* Eichhoff, but is distinguished by the slightly stouter body form, by the much steeper, flat elytral declivity, and by the arrangement of declivital tubercles.

FEMALE.—Length 1.9 mm (paratypes 1.8-2.1 mm), 2.3 times as long as wide; color very dark brown to black.

Frons broadly concave, a slight, transverse impression above epistoma; surface strongly reticulate, punctures small, shallow, sparse.

Pronotum 1.1 times as long as wide; sides feebly arcuate, almost parallel on basal two-thirds, rather broadly rounded in front; anterior margin armed by six to ten serrations, median one or two pairs distinctly larger; summit at middle; anterior area rather coarsely asperate; posterior areas mostly reticulate with some shining areas, punctures rather small, shallow, moderately close. Vestiture of moderately abundant, fine, short hair.

Elytra 1.4 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on slightly more than basal two-thirds,

rather narrowly rounded behind; disc occupying basal 60 percent of elytral length; striae not impressed, punctures rather small, moderately deep, spaced within a row by one to two diameters of a puncture; interstriae almost smooth, shining, about three to four times as wide as striae, punctures very fine, slightly confused on basal two-thirds of disc, uniseriate toward declivity. Declivity rather steep, flat on median half from rounded base to near apex; surface shagreened, striae as on disc, apices of 2 and 3 converge toward suture; interstriae 1-3 flat; all interstriae with rows of small, pointed granules, those near base on all interstriae larger, those on 1 and 2 on face of declivity and on lower half of 5, 7, and 8 minute, others slightly larger; posterolateral margin rounded, marked by a row of small tubercles from apex to interstriae 9. Vestiture of minute strial hair on and near declivity, and interstitial bristles each as long as distance between rows on and near declivity, confused on anterior areas of disc.

TYPE LOCALITY.—Twenty-four km (15 mi) W Armeria, Colima, Mexico.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 30-VI-65, 30 m, No. 147, in flight, by S. L. Wood; 13 female paratypes bear identical data to the type except Nos. 153, 154, from an unidentified broken tree branch. Other female paratypes were taken in Mexico as follows: one from 53 km (33 mi) S Colima, Colima, 27-VI-65, 700 m, Nos. 125, 127, in flight; one from 6 km (4 mi) S Cihuatlan, 30-VI-65, 70 m, No. 157, from a liana; one from Volcan Colima, Jalisco, 23-VI-65, 2500 m, No. 124, from a shrub limb; four from Laguna Santa Maria, 6-VII-65, 1000 m, No. 193, from a liana; and one from 8 km (5 mi) E San Blas, Nayarit, 12-VII-65, 70 m, No. 232, from a leguminose tree; all were taken by me.

The holotype and paratypes are in my collection.

Xyleborus exutus, n. sp.

This species is distinguished from the allied *tolimanus* Eggers by the complete absence of denticles on the elytral declivity.

FEMALE.—Length 1.9 mm, 3.0 times as long as wide; color reddish brown, pronotum more yellowish brown.

Frons about as in *catulus* Blandford but surface finely granulate to well above eyes. Pronotum 1.2 times as long as wide; basically as in *catulus* except anterior margin rather narrowly rounded and more coarsely serrate.

Elytra 1.9 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal half, acutely converging to one-fifth greatest elytral width at narrowly, shallowly emarginate apex; striae not impressed, punctures small, shallow, distinct, spaced within a row by twice diameter of a puncture; interstriae smooth, shining, three to four times as wide as striae, punctures fine, uniseriate, rather widely spaced. Declivity gradual, narrowly convex; striae feebly impressed, punctures slightly larger than on disc; all interstriae equally sculptured, punctures distinct, regularly, rather closely spaced, anterior margin of each rather broadly, weakly granulate; interstriae 1 weakly elevated near acuminate apex; posterolateral margin weakly elevated and rather narrowly rounded near apex, becoming more broadly rounded anteriorly, entirely devoid of granules and denticles. Vestiture entirely abraded except for a few hairlike setae on sides.

TYPE LOCALITY.—Turrialba, Cartago, Costa Rica.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 9-III-64, 700 m elevation, No. 468, from a new fence post, by S. L. Wood.

The holotype is in my collection.

Xyleborus rusticus, n. sp.

This species is distinguished from *rubricollis* Eichhoff by the larger size, by the proportionately smaller punctures on the declivital striae, and by the uniformly convex elytral striae.

FEMALE.—Length 3.3 mm (paratype 3.5 mm), 2.3 times as long as wide; color dark brown.

Frons broadly, irregularly convex; surface reticulate, shining, punctures rather coarse, close, moderately deep above, obscure below; vestiture sparse, inconspicuous.

Pronotum 0.98 times as long as wide; sub-circular, all margins about equally arcuate, widest slightly behind middle; summit distinctly behind middle, entire surface closely, rather coarsely asperate to base, slightly finer on posterior third; surface between asperities reticulate, dull. Vestiture of fine, rather long, moderately abundant hair.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides straight on basal two-thirds, slightly wider at base of declivity, broadly rounded behind; disc occupying basal two-thirds; striae 1 feebly, others not impressed, punctures rather small, moderately

deep, spaced within row by one to two diameters of a puncture; interstriae about four times as wide as striae, almost smooth, shining, punctures small, moderately confused, their anterior margins finely granulate. Declivity steep, evenly, broadly convex; striae punctures slightly wider than on disc; interstriae three times as wide as striae, granules on all interstriae distinctly larger, pointed. Vestiture of short striae hair and fine, long, abundant hair; interstitial setae in almost uniseriate rows on declivital interstriae 1 and 2, confused elsewhere.

TYPE LOCALITY.—Ten km NE Teziutlan, Puebla, Mexico.

TYPE MATERIAL.—The female holotype was taken at the type locality on 2-VII-67, 1600 m, No. 150, from an unidentified log by S. L. Wood. One female paratype is from the same locality and collector, taken 27-VI-53, No. 49.

The holotype and paratype are in my collection.

Xyleborus ocellatus, n. sp.

This species is distinguished from *rusticus* Wood by the coarser striae punctures, by the more deeply impressed declivital striae, by the striae punctures on the declivity, each with a granule occupying its central half thereby giving the superficial appearance of an eye, and by the larger interstitial granules on the declivity.

FEMALE.—Length 3.5 mm (paratypes 3.3-3.5 mm), 2.3 times as long as wide, color black.

Frons and pronotum as in *rusticus* except asperities on basal half of pronotum distinctly larger.

Elytra 1.4 times as long as wide, 1.5 times as long as pronotum; outline as in *rusticus*; striae 1 feebly, others not impressed, punctures moderately coarse, rather shallow; interstriae three times as wide as striae, almost smooth, punctures rather fine, finely granulate on their anterior margins, confused on 2 and 3. Declivity convex, steep; striae 1 distinctly, 2 feebly impressed, punctures slightly larger than on disc, each puncture with its central half occupied by a rounded granule; interstriae feebly convex, each armed by a uniseriate row of moderately coarse, pointed tubercles, 7 subacutely elevated and tuberculate. Vestiture as in *rusticus*.

TYPE LOCALITY.—Piedras Blancas, 10 km E Medellin, Antioquia, Colombia.

TYPE MATERIAL.—The female holotype and two female paratypes were taken at the type

locality on 15-VII-70, 2500 m, No. 675, from an unidentified log, by S. L. Wood. Two other female paratypes bear identical data except one is from No. 684 in *Chusia*, and one is No. 677 taken in flight.

The holotype and paratypes are in my collection.

Xyleborus opimus, n. sp.

This species is distinguished from *lecontei* (Hopkins) by the slightly smaller size, by the more strongly rounded anterior and lateral margins of the pronotum, by the finer, less numerous asperities on the pronotal disc, by the convex elytral declivity, and by the different arrangement of declivital tubercles.

FEMALE.—Length 2.4 mm, 2.2 times as long as wide; color reddish brown.

Frons as in *lecontei*. Pronotum 1.0 times as long as wide, as in *lecontei* except anterior and lateral margins more strongly arcuate, summit slightly higher, and asperities behind summit slightly smaller and evidently less numerous.

Elytra 1.36 times as long as wide; outline and disc as in *lecontei* except striae punctures not larger near disc, interstitial punctures near declivity granulate. Declivity rather broadly, evenly convex, steep; striae punctures as large as on disc, deep, smaller than in *lecontei*; interstriae 1 bearing a row of granules on basal half, those near base rather coarse, 2 with several pointed tubercles on basal half, one or two at or slightly below middle distinctly larger, 3 with three to five smaller tubercles; all tubercles smaller than major tubercles of *lecontei*. Vestiture as in *lecontei*.

TYPE LOCALITY.—Sebring, Florida.

TYPE MATERIAL.—The female holotype was taken at the type locality on 20-VI-51, at light, by S. L. Wood.

The holotype is in my collection.

Xyleborus lacunatus, n. sp.

This species is distinguished from *commixtus* Blandford by details in sculpture of the elytral declivity as indicated in the description.

FEMALE.—Length 4.9 mm, 2.5 times as long as wide; color dark brown.

Frons, pronotum, and elytral disc as in *commixtus*. Elytral declivity essentially as in *commixtus* except rather strongly, transversely impressed on lower third; suture distinctly concave on lower two-thirds; striae punctures larger; interstriae about twice as wide as striae; postero-

lateral margin much more strongly, acutely elevated than in *commixtus*, rather strongly concave from its crest to suture on lower third of declivity. Vestiture as in *commixtus*.

TYPE LOCALITY.—Turrialba, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype was taken at the type locality on 18-IV-63, from *Theobroma cacao*, by J. L. Saunders. One female paratype is from Peralta, Cartago, Costa Rica, 10-III-64, flight, S. L. Wood.

The holotype and paratype are in my collection.

Xyleborus meridensis, n. sp.

This species is distinguished from *caribicus* Eggers by the slightly larger size, by the larger, less deeply impressed punctures on the striae, by the more gradual declivity with the lower median half almost flat, and by the rounded posterolateral margin of the declivity.

FEMALE.—Length 4.1 mm (paratypes 3.7-4.3 mm), 2.7 times as long as wide; color dark brown.

Frons and pronotum as in *caribicus* except posterior areas of pronotum more distinctly reticulate.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; sides almost straight and parallel on slightly less than basal two-thirds, slightly tapered then rather narrowly rounded behind; striae not impressed, punctures moderately coarse, shallow; interstriae twice as wide as striae, smooth, punctures fine, uniseriate. Declivity moderately steep, rather narrow, feebly impressed on median area particularly on central half; suture on lower two-thirds straight; striae not impressed, punctures on middle half larger than on disc, interstriae one and one-half times as wide as striae; interstriae smooth, shining, each armed by about five small, pointed tubercles; posterolateral margin rather narrowly rounded (not carinate), armed by a series of rather widely spaced, small, pointed granules.

MALE.—Length 3.4 mm; head and elytra essentially as in female. Pronotum 1.2 times as long as wide, 0.86 times as long as elytra; quadrate, anterior third broadly, concavely excavated, anterolateral margins abruptly angulate, acutely elevated; anterior margin acutely elevated, slightly produced into an obtuse, median point; subglabrous.

TYPE LOCALITY.—La Carbonera experimental forest, about 50 km (airline) NE Merida, Merida, Venezuela.

TYPE MATERIAL.—The female holotype, male allotype, and four paratypes were taken at the type locality on 23-IV-70, 2500 m, Nos. 450, 451, from an unidentified log by S. L. Wood. Other paratypes were taken at the same locality as follows: 5 on 16-IX-69, No. 21 in *Prunus sphaerocarpa*; 1 on 16-IX-69, No. 20 on *Ficus*; 1 on 14-X-69, No. 66; 2 on 27-X-69, No. 92; 6 on 9-XII-69, No. 171; 8 on 28-IV-70, Nos. 450, 451, and 457, from unidentified logs; all by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Xyleborus acinix, n. sp.

This species is distinguished from *meridensis* Wood by the much smaller size, by the more strongly convex declivity, and by the presence of only one tubercle on declivital interstriae 2.

FEMALE.—Length 3.1-3.3 mm, 2.9 times as long as wide; color dark brown.

Frons and pronotum as in *meridensis* except pronotum 1.14 times as long as wide.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; outline and disc as in *meridensis* except interstitial punctures more widely spaced. Declivity moderately steep, convex; longitudinal axis of suture feebly convex on lower half; striae not impressed, punctures little if any larger than on disc; interstriae smooth, shining, 1 and 3 each armed by about three to six pointed granules of variable size, 2 armed by one moderately coarse denticle one-third declivital length from apex, a few small granules in lateral areas; posterolateral margin as in *meridensis*, narrowly rounded, its crest armed by several small, isolated granules. Vestiture confined to declivity, sparse, one short bristle arising from posterior basal margin of each granule, each about half as long as width of an interstriae.

TYPE LOCALITY.—Cerro Punta near Volcan de Chiriqui (Baru), Chiriqui, Panama.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 11-I-64, 1800 m, No. 386, from a stump 15 cm in diameter, by S. L. Wood.

The holotype and paratypes are in my collection.

Xyleborus dissimulatus, n. sp.

This species is distinguished from *meridensis* Wood by the much smaller size, by the smaller striae punctures, by the much smaller granules on declivital interstriae 2, and by the more subangulate, subserrate posterolateral margin of

the declivity. It is distinguished, with difficulty, from *posticus* Eichhoff by the shining, more gradual declivity, and by the shorter, sparse declivital bristles.

FEMALE.—Length 2.2 mm (paratypes 2.2-2.3 mm), 2.6 times as long as wide; color brown.

Frons, pronotum, and elytral disc as in *posticus*.

Elytra 1.6 times as long as wide, 1.6 times as long as pronotum; disc occupying basal 60 percent of elytral length. Declivity moderately steep, rather broadly convex; striae punctures much larger than on disc, very shallow; interstriae smooth, shining, as wide as striae, each with a sparse row of minute granules, 1 and 3 each with about two distinctly larger granules; posterolateral margin subacute, more continuously subserrate than in *posticus*. Vestiture largely confined to declivity, of very short, stout and fine, interstitial bristles, each bristle about one-third as long as distance between rows.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 17-IX-63, No. 184, from *Miconia caudata*, by S. L. Wood. One female paratype bears identical data except No. 178 from a liana. One paratype is from the same locality and collector taken 2-VII-63, No. 9, *Miconia* sp.

The holotype and paratypes are in my collection.

Xyleborus concentus, n. sp.

This species is distinguished from *parallelocollis* Eggers by the more narrowly convex declivity on the transverse axis, by the serrate posterolateral margin of the declivity, and by the shorter interstitial bristles on the declivity.

FEMALE.—Length 2.5 mm (paratypes 2.5-2.7 mm), 2.7 times as long as wide; color dark brown.

Frons and pronotum as in *caribicus* Eggers except pronotum 1.15 times as long as wide.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on slightly less than basal two-thirds, tapered, then narrowly rounded behind; striae not impressed, punctures rather small, distinctly impressed; interstriae twice as wide as striae, punctures very fine, uniseriate. Declivity gradual, transversely convex, suture very feebly convex on lower half; surface rather dull in most specimens; striae not impressed, punctures larger than on disc; interstriae flat, slightly wider than

striae, granules small, of uniform size, spaced by distances less than width of an interstriae; posterolateral margin abrupt, subacute, finely serrate. Vestiture largely confined to declivity, consisting of short, stout, interstitial bristles, each bristle equal in length to one-third width of an interstriae; a few similar, much longer bristles on disc.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype and two female paratypes were taken at the type locality on 26-XI-63, 1300 m, No. 265, from *Phoebe mexicana*, by S. L. Wood. Other female paratypes were taken as follows: 1 at Rincon de Osa, Puntarenas, Costa Rica, 11-VIII-66, 30 m, No. 90, liana; 1 at Volcan, Puntarenas, Costa Rica, 11-XII-63, 1000 m, No. 308, tree limb; 1 at Guapiles, Limon, Costa Rica, 22-VII-66, 100 m, No. 101, tree limb; and 6 at 30 km E Palmar, Bolivar, Venezuela, 12-VI-70, 200 m, No. 556, *Alexa imperatricis*; all by S. L. Wood.

The holotype and paratypes are in my collection.

Xyleborus tribulatus, n. sp.

This species is distinguished from *semipunctatus* Eggers except as noted in the following description.

FEMALE.—Length 3.8 mm, 2.4 times as long as wide; color very dark brown.

Frons and pronotum as in *semipunctatus* except punctures on posterior half of pronotum distinctly larger, closer.

Elytra as in *semipunctatus* except discal striae 2 distinctly sinuate; interstriae 2 and 3 on disc distinctly confused; striae punctures on disc and declivity distinctly larger, interstriae on disc three times as wide as striae (four times as wide in *semipunctatus*). Declivity as in *semipunctatus* except as noted.

TYPE LOCALITY.—Rio Damitas in the Dota Mountains, San José, Costa Rica.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 22-VIII-63, 250 m, No. 126, from a liana 10 cm in diameter, by S. L. Wood.

The holotype is in my collection.

Xyleborus vismiae, n. sp.

This species is distinguished from *costaricensis* Blandford by the shorter, steeper declivity which is strongly, transversely impressed on the lower half, by the smooth, shining declivital surface, and by the larger declivital granules. The

costaricensis group of species is characterized by the slightly protuberant, smooth, peculiarly reticulate frons that is devoid of punctures, by the tapered posterior half of the elytra, and by the long, rather narrow declivity.

FEMALE.—Length 3.5 mm (paratypes 3.3-3.7 mm), 2.6 times as long as wide; color dark brown.

Frons shallowly, transversely impressed between eyes, weakly inflated below; surface smooth with very fine reticulation below, more coarsely reticulate toward vertex, punctures rather small, sparse, mostly confined to lateral areas, none on lower third; vestiture very sparse, hairlike, inconspicuous.

Pronotum 1.13 times as long as wide; sides almost straight and parallel on basal half, rather narrowly rounded in front; summit at middle; anterior half rather finely asperate; posterior areas very finely subreticulate; punctures minute, distinct, rather sparse.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal half, then rather strongly tapered, rather narrowly rounded behind; striae not impressed, punctures small, distinct, spaced within a row by one to two diameters; interstriae smooth, moderately shining punctures very minute, distinct, uniseriate. Declivity occupying slightly more than posterior third, strongly, transversely impressed on lower half; transversely flat; longitudinally concave; striae curved toward suture near apex, punctures almost twice as large as on disc; interstriae shining, armed by rows of small granules, alternate granules slightly larger; posterolateral margin narrowly rounded, its crest with a few feeble granules.

TYPE LOCALITY.—Rio Damitas in the Dota Mountains, San José, Costa Rica.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 22-VIII-63, 250 m, No. 126, from *Vismia guayanensis*, by S. L. Wood. Eight female paratypes are from Rancho Grande, Pittier National Park, Aragua, Venezuela, 9-IV-70, 1100 m, No. 433, from a species of Guttiferae near but probably not *Vismia*, by S. L. Wood, except one of these is No. 441 from an unidentified tree limb.

The holotype and paratypes are in my collection.

Xyleborus demissus, n. sp.

This species is distinguished from *deplanatus* Eggers by the more slender body form, by the shorter declivity, by the two sizes of interstitial

tubercles on the declivity, and by the less strongly serrate posterolateral margin of the declivity.

FEMALE.—Length 2.0 mm, 2.9 times as long as wide; color dark brown.

Frons and pronotum as in *deplanatus* except pronotum 1.21 times as long as wide.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on basal half, then slightly tapered, narrowly rounded behind, weakly emarginate at suture; disc occupying slightly more than basal half; striae not impressed, punctures small, shallow, distinct; interstriae smooth, shining, three times as wide as striae, punctures uniseriate, slightly smaller than those of striae, their anterior margins feebly granulate at base, becoming more distinctly granulate posteriorly. Declivity rather gradual, moderately convex on both axes; striae not impressed, punctures slightly larger than on disc, lateral margins of punctures on 2 and 3 weakly granulate; interstriae shining, about twice as wide as striae, each armed by a row of granules, granules mostly small except on 2 and 3 distinctly larger granules alternate with small ones. Vestiture of rows of fine, short, strial hair, and interstitial rows of short, almost scalelike bristles, each bristle one-third to one-half as long as distance between rows, slightly closer within a row, each three to five times as long as wide.

TYPE LOCALITY.—Rincón de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 11-VIII-66, 30 m, No. 70, from a log 20 cm in diameter, by S. L. Wood.

The holotype is in my collection.

Xyleborus meritus, n. sp.

This species is distinguished from *vismiae* by the slightly larger size, by the more gradual, more nearly flattened elytral declivity, and by the much finer interstitial granules on the declivity.

FEMALE.—Length 3.0 mm (paratypes 2.8-3.4 mm), 2.8 times as long as wide; color very dark brown.

Frons, pronotum (1.15 times as long as wide), and elytral disc as in *vismiae* Wood.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; outline as in *vismiae*. Declivity occupying slightly less than posterior half of elytral length, its lower half very shallowly concave; striae not impressed, curving toward suture near apex, punctures almost twice as

large as on disc; interstriae smooth, shining, with widely spaced fine granules, those on lower half of 2 and 3 smaller, sometimes almost obsolete. Vestiture sparse, of fine hair, length on declivity equal to about half width of an interstriae.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 17-IX-63, 1300 m, No. 178, liana, S. L. Wood. Thirteen female paratypes were taken at the same locality (2) 2-VII-63, No. 7, liana, (1) 3-VII-63, No. 17, *Conostegia oerstediana*, (2) 17-IX-63, No. 182, *Miconia caudata*, (1) 24-X-63, No. 184, *Miconia caudata*, (6) 26-XI-63, No. 265, *Phoebe mexicana*. Ten female paratypes are from 14 km SE Cartago, Cartago, Costa Rica, 1800 m, (1) 3-VII-63, No. 17, *Conostegia oerstediana*, (8) 24-IX-63, No. 204, *Miconia globuliflora*, and (1) 24-IX-63, No. 200, *Myrica pubescens*; all by S. L. Wood.

The holotype and paratypes are in my collection.

Xyleborus prolatus, n. sp.

This species is distinguished from *costaricensis* Blandford by the larger size, by the longer, more strongly impressed declivity, and by the near absence of granules on declivital interstriae 1 and 2.

FEMALE.—Length 4.2 mm (paratypes 4.0-4.4 mm), 2.8 times as long as wide; color dark brown.

Frons and pronotum as in *costaricensis*.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; outline about as in *costaricensis* except more strongly tapered on posterior half, more narrowly rounded behind; disc confined to basal third, as in *costaricensis*. Declivity very gradual, shallowly, broadly bisulcate; surface dull; striae punctures twice as large as on disc; interstriae almost twice as wide as striae, smooth, 1 distinctly elevated toward suture, 2 broadly, subconcavely impressed, 3 distinctly, gradually elevated toward broad summit at striae 4, 3 and 4 each with a row of widely spaced, moderately large granules, 1 and 2 sometimes with one or two smaller granules near apex (one paratype with five granules on 2 on left side). Vestiture as in *costaricensis* except almost entirely absent on declivital interstriae 1 and 2.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype and eight female paratypes were taken at the type

locality on 24-X-63, 1300 m, No. 265, from a recently cut limb of *Phoebe mexicana* 10 cm in diameter, by S. L. Wood.

The holotype and paratypes are in my collection.

Xyleborus dissidens, n. sp.

This species is placed near *sparsipilosus* Eggers because of the slender pronotum and steep elytral declivity; however, it probably is more closely related to species placed in the subgenus *Euwallacea*. In addition to the slender pronotum with its procurved anterior margin, this species has the elytral declivity steep, convex, and interstriae 1-3 equally armed by pointed granules.

FEMALE.—Length 3.1 mm (paratypes 3.0-3.2 mm), 3.0 times as long as wide; color black.

Frons as in *costaricensis* Blandford but with lower area less strongly inflated.

Pronotum 1.22 times as long as wide; as in *sparsipilosus* except posterior areas subreticulate.

Elytra 1.8 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on slightly more than basal two-thirds, rather broadly rounded behind; disc occupying slightly more than basal two-thirds; striae not impressed, punctures rather small, distinct, spaced within a row by diameter of a puncture; interstriae smooth, shining, twice as wide as striae, punctures uniseriate, minute, distinct, almost obsolete. Declivity steep, rather broadly convex; striae about as on disc; interstriae 1-3 each equally armed by six to ten pointed granules of slightly irregular size; posterolateral margin obtuse, abrupt. Vestiture confined to declivity, of rows of rather coarse, interstitial setae, each seta about one and one-half times as long as distance between rows, more widely spaced within a row.

TYPE LOCALITY.—Nine km NE Tezuitlan, Puebla, Mexico.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 2-VII-67, 1500 m, No. 141, from *Alnus* cordwood, by S. L. Wood. Two female paratypes bear identical data except one is No. 147, from an unidentified log, and one is No. 141, taken in flight.

The holotype and paratypes are in my collection.

Xyleborinus dirus, n. sp.

Superficially this species might be confused with *Xyleborus ferox* Blandford, but the conical

scutellum and emarginate elytral base show the true relationships to be very different.

FEMALE.—Length 3.5 mm (paratypes: females 3.4-3.6 mm, males 2.5-2.7 mm), 2.7 times as long as wide; mature color black.

Frons convex, epistoma slightly elevated; surface reticulate, punctures rather large, impressed, indefinite; vestiture inconspicuous.

Pronotum 1.06 times as long as wide, widest a third of its length from base; sides rather weakly arcuate on basal two-thirds, converging very slightly, then rather strongly rounded in front, median area rather narrowly produced but unarmed (in many paratypes anterior margin rather broadly rounded); summit very slightly in front of middle; posterior area reticulate, indistinctly so near base, punctures small, distinct, rather close; vestiture rather long and abundant on sides and in asperate area.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; sides almost straight and parallel on basal half, then arcuately converging to apex of ventrolateral spine, rather broadly U-shaped between spines; striae 1 weakly, others not impressed, punctures moderately large, deep, somewhat confused on 1; interstriae mostly twice as wide as striae, punctures similar to those of striae but deeper, uniseriate except partly confused on 1 and 2. Declivity moderately steep, broadly, shallowly excavated, lateral margins armed by three pairs of major spines; spine 1 at upper margin in line with striae 2, spine 2 on lateral margin two-thirds declivital length from upper margin, spine 3 at posterolateral margin; spine 1 slightly more than half as long as 3, 2 slightly smaller than 3, 2 equal in length to width of antennal club; one minor tooth in front of spine 1, two others between 1 and 2; declivital face with confused punctures similar to those on disc. Vestiture consisting of rather long, slender hair arising from interstitial punctures on disc and sides, setae minute on excavated area.

MALE.—Length 2.5-2.7 mm; similar to female except smaller, eye reduced, pronotum not strongly arched, with asperities somewhat reduced; elytral declivity much longer, more gradual, with spine 1 greatly reduced, minor teeth mostly absent.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 34 paratypes were collected at the type locality on II-VIII-66, at about 30 m elevation, from cut limbs 10-20 cm in diameter in the primary forest. Nineteen additional para-

types were taken at Rio Damitas in the Dota Mountains, San José, Costa Rica, 22-VIII-63, 250 m, from a stump 25 cm in diameter in the primary forest; all specimens were collected by myself. The tunnels were of a branching type that included several enlarged cavities.

The holotype, allotype, and paratypes are in my collection.

Xyleborinus tribulosus, n. sp.

This species is distinguished from *dirus* Wood by the smaller size, by the more slender body form, by the smaller, uniseriate striae and interstitial punctures on disc and declivity, and by the different elytral declivity.

FEMALE.—Length 2.5 mm (paratype 2.4 mm), 2.8 times as long as wide; color very dark brown.

Frons and pronotum essentially as in *dirus* except pronotum 1.1 times as long as wide; pronotal disc glabrous.

Elytra 1.6 times as long as wide (spines excluded), 1.4 times as long as pronotum; outline essentially as in *dirus*; striae not impressed, punctures small, uniseriate, close; interstriae smooth, shining, slightly more than twice as wide as striae, punctures half as large as those of striae, uniseriate. Declivity occupying two-thirds of elytral length; broadly flattened to feebly impressed, its margin armed by about 24 rather coarse, pointed denticles on interstriae 1-6 from base to near sutural apex; interstriae 3 armed at middle and near apex by two pairs of very large spines, each spine one and one-half times as long as its basal width, about equal in length to discal distance from suture to striae 3; face of declivity with striae punctures in rows, slightly larger than on disc; interstitial punctures largely obsolete. Vestiture of rows of rather coarse interstitial setae, on disc each seta about as long as distance between rows, distinctly closer within a row, on declivity distinctly longer and less regularly placed.

TYPE LOCALITY.—Madden Forest, Canal Zone, Panama.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 2-I-64, 70 m, No. 367, from a tree limb by S. L. Wood.

The holotype and paratype are in my collection.

Xyleborinus protinus, n. sp.

This odd species is not closely related to any American species known to me.

FEMALE.—Length 1.7 mm (paratypes 1.6-1.7 mm), 2.7 times as long as wide; color rather light brown, prothorax distinctly lighter.

Frons very weakly convex from upper level of eyes to epistomal margin; surface reticulate, rather coarsely, obscurely punctured; vestiture inconspicuous.

Pronotum 1.25 times as long as wide; widest one-third pronotum length from base, sides weakly arcuate, basal and anterior angles more strongly rounded, rather narrowly rounded in front; asperities fine, largely isolated; summit indefinite, in front of middle; surface reticulate in front of summit, mostly smooth and brightly shining behind, punctures small, deep, not close; vestiture largely confined to sides and asperate area.

Elytra 1.6 times as long as wide, 1.3 times as long as pronotum; sides essentially straight and parallel on basal three-fourths, then rather abruptly rounded, shallowly emarginate on median third behind; scutellum conical; striae not impressed, punctures small, deep; interstriae twice as wide as striae, punctures small, indefinite; elytra arched from base to apex. Declivity beginning on basal third of elytra, gradual; lateral margins on lower half gradually elevated and continuing almost to apex, elevation rather high, not at all acute, evidently entirely unarmed; lower half transversely concave; striae 1 and 2 with punctures larger than on disc, strongly impressed; interstriae 2 wider than 1; interstitial punctures obscure. Vestiture consisting of stout, hairlike setae, more abundant on declivity, particularly on inner slope of lateral elevation.

TYPE LOCALITY.—Finca La Lola, Limon, Costa Rica.

TYPE MATERIAL.—The female holotype and four female paratypes were collected at the type locality on 7-II-63, from *Theobroma cacao*, by J. L. Saunders.

The holotype and paratypes are in my collection.

Xyleborinus celatus, n. sp.

This species differs from *reconditus* Schedl by the much finer punctures on the pronotal disc and by the reduction of the denticles on declivital interstriae 2.

FEMALE.—Length 1.7 mm (paratypes 1.6-1.8 mm), 2.5 times as long as wide; color dark brown, almost black.

Frons and pronotum as in *reconditus* except posterior areas of pronotum with punctures much finer, less numerous.

Elytra 1.4 times as long as wide, 1.3 times as long as pronotum; sides almost straight and parallel on basal three-fourths, then rather abruptly rounded, straight on median half behind; disc confined to basal third of elytral length; striae not impressed, punctures minute; interstriae almost smooth, subshining, at least six times as wide as striae, punctures slightly smaller than those of striae. Declivity gradual, longitudinally flat and transversely very weakly convex on its basal half, slightly steeper and broadly, shallowly sulcate on its lower half; base commencing much more abruptly than in *reconditus*; lower half of declivity with contours as in *reconditus* but striae punctures smaller and interstriae 3 armed by only two denticles, one just behind middle of declivity and one on its apical fourth; interstriae on basal half armed by rows of fine granules. Vestiture confined to declivity, consisting of minute striae hair and interstitial rows of stout bristles; each bristle as long as distance between rows.

TYPE LOCALITY.—Eight km S Colonia (near Buenaventura), Valle de Cauca, Colombia.

TYPE MATERIAL.—The female holotype and five female paratypes were taken at the type locality on 9-VII-70, 30 m, No. 646, from *Inga* sp., by S. L. Wood. Nine female paratypes bear identical data except they are No. 628 from *Icica altissima* or No. 631 from *Protium nervosum*.

The holotype and paratypes are in my collection.

Araptus insinuatus, n. sp.

This species is distinguished from the very closely related *foveifrons* Schedl by the strongly impressed declivital interstriae 2, by the longer elytral vestiture, and by the more finely, more closely punctured pronotal disc.

MALE.—Length 1.6-2.1 mm, 2.4 times as long as wide; color reddish brown.

Frons and pronotum as in *foveifrons* except punctures on pronotal disc distinctly smaller, closer. Elytra as in *foveifrons* except discal punctures averaging slightly longer, finer than in *foveifrons*.

FEMALE.—Similar to male except frons (concealed) apparently as in female *foveifrons*.

TYPE LOCALITY.—Guatemala.

TYPE MATERIAL.—The male holotype, female allotype, and two male paratypes were intercepted from Guatemalan seeds at San Pedro, California, 7-III-63. One male paratype is from

La Ceiba, Atlantida, Honduras, 17-VI-49, at light, by E. C. Becker.

The holotype, allotype, and paratypes are in my collection.

Araptus interjectus, n. sp.

This species is distinguished from *foveifrons* Schedl by the larger size, by the more elongate form, by the near absence of interstitial punctures, and by the different frons in both sexes.

MALE.—Length 2.4 mm (paratypes 2.4-2.7 mm), 2.9 times as long as wide; color rather dark reddish brown.

Frons strongly, transversely impressed from eye to eye from middle to well above upper level of eyes, its margins obtuse, its lower lateral angles armed by a pair of rather coarse tubercles and with a large, pointed, median tubercle at same level; lower third of area below upper level of eyes subaciculate; all surfaces shining; vestiture sparse except along epistomal margin. Antennal club as in *foveifrons*.

Pronotum 1.15 times as long as wide; widest behind middle, sides moderately arcuate on more than posterior half, weakly constricted on anterior third, rather broadly rounded in front; anterior margin armed by about eight irregular serrations; indefinite summit one-third of pronotum length from anterior margin; asperities fine, confused; posterior areas obscurely reticulate in some areas, numerous minute, impressed points present, punctures rather small, deep, moderately close. Glabrous except for a few setae on asperate area and lateral margins.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; sides straight and parallel on basal two-thirds, broadly rounded behind; striae not impressed except 1 near declivity, punctures moderately coarse, spaced by diameter of a puncture; interstriae twice as wide as striae, shining, with rather numerous minute points and moderately abundant, subtransverse impressed lines, punctures obsolete except for an occasional puncture on some specimens. Declivity steep, broadly convex; sutural interstriae distinctly, rather abruptly elevated, 2 slightly wider than 1 or 3 and impunctate, 1 and 3 each with a few small punctures. Vestiture largely abraded, a few short interstitial bristles on declivity.

FEMALE.—Similar to male except frons broadly flattened, weakly impressed near median line, median line with a conspicuous, blunt carina from epistoma to well above eyes; frontal vestiture of moderately abundant, fine,

uniformly distributed long hair, distinctly longer at margins.

TYPE LOCALITY.—Volcan de Agua, Guatemala.

TYPE MATERIAL.—The male holotype, female allotype, and 12 paratypes were taken at the type locality on 19-V-64, 1000 m, Nos. 609 and 612, from pith tunnels in a cut vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus accinctus, n. sp.

This species is distinguished from *foveifrons* Schedl by the more slender body form, by the sparse discal interstitial punctures, and by the very different frons in both sexes.

MALE.—Length 2.2 mm (paratypes 2.1-2.5 mm), 2.8 times as long as wide; color dark reddish brown.

Frons excavated as in *foveifrons* but with lateral cusps longer, extending ventrad to upper level of eyes, a sharply elevated median carina extending from deepest point of excavation ending on epistomal margin in a small tooth, lateral margins of lower half of excavation armed by one or more pairs of small tubercles. Antennal club as in *foveifrons*.

Pronotum and elytra as in *interjectus* Wood except odd-numbered discal interstriae punctured, even-numbered interstriae very sparsely punctured, and declivity as in *foveifrons* except more narrowly convex, punctures smaller.

FEMALE.—Similar to male except frons shallowly concave from eye to eye from epistoma to vertex, surface shining, finely punctured, subaciculate, a distinctly elevated median carina extending from center of excavation to denticulate epistomal margin; margins of frontal excavation ornamented by a rather dense fringe of fine, long hair.

TYPE LOCALITY.—Three km (2 miles) SE Acatlan, Puebla, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and five paratypes were taken at the type locality on 15-V-67, 1500 m, No. 38, from pith tunnels in a cut vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus delicatus, n. sp.

This species is distinguished from *genialis* Wood by the smaller size, by the more slender form, and by the very different sculpture of the frons.

MALE.—Length 1.9 mm (paratypes 1.7-2.5 mm), 2.8 times as long as wide; color dark brown except basal half of elytra light brown.

Frons deeply impressed on triangular area from epistoma to vertex, upper angle of triangle on vertex an inverted U-shaped area having its margins acutely costate, floor of impressed area obscurely aciculate and with a low, long, acute carina; vestiture fine, short, moderately abundant, with a conspicuous epistomal brush. Antennal club as in *foveifrons*.

Pronotum 1.2 times as long as wide; sides on basal half almost straight and parallel, broadly rounded in front; anterior margin armed by about 12 low serrations; indefinite summit one-third pronotum length from anterior margin; asperities small, confused; posterior areas shining with numerous impressed points, punctures moderately coarse, deep, close. Vestiture of moderately abundant, fine, very short hair.

Elytra 1.6 times as long as wide, 1.4 times as long as pronotum; sides straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed except 1 weakly, punctures rather small, deep, spaced by diameter of a puncture; interstriae two to three times as wide as striae, shining, marked by irregular lines, punctures almost as large as those of striae, irregularly placed. Declivity steep, broadly convex, strial and interstitial punctures smaller than on disc; sutural interstriae feebly elevated, area from striae 1 to 3 flat on middle half. Vestiture of rows of short strial and slightly longer interstitial hair, longest interstitial setae slightly shorter than distance between rows.

FEMALE.—Similar to male except frons more extensively, subcircularly impressed, U-shaped carina as in male, vestiture on margins abundant and very long.

TYPE LOCALITY.—Eight km S La Huerta, Jalisco, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 62 paratypes were taken at the type locality on 1-VII-65, 500 m, No. 161, from axial pith tunnels in stems of a vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus genialis, n. sp.

This species is distinguished from *delicatus* Wood by the larger size, by the stouter body form, and by the sculpture of the frons.

MALE.—Length 3.0 mm (paratypes 2.8-3.4 mm), 2.7 times as long as wide; color dark reddish brown.

Frons deeply, triangularly impressed on median three-fourths from epistoma to vertex, upper angle more strongly impressed, its margins armed by one median and two lateral acutely elevated cusps; floor of impression punctate to obscurely aciculate, with a broad, strongly elevated carina from emarginate epistoma to deepest part of concavity, both upper and lower ends terminate abruptly. Antennal club as in *foveifrons*.

Pronotum 1.16 times as long as wide; as in *delicatus* except discal punctures smaller, not as deep.

Elytra 1.7 times as long as wide, 1.4 times as long as pronotum; as in *delicatus* except discal interstriae three to four times as wide as striae and declivital interstriae 3 feebly elevated.

FEMALE.—Similar to male except frontal impression more extensive, its margins ornamented by a dense fringe of long, yellow hair.

TYPE LOCALITY.—Volcan de Agua, Guatemala.

TYPE MATERIAL.—The male holotype, female allotype, and 18 paratypes were taken at the type locality on 19-V-64, 1000 m, No. 609 (two are 608), from axial pith tunnels in a cut vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus dentifrons, n. sp.

This species is distinguished from *confinis* (Blandford) by the impressed male frons, with the earina much stronger, and with a series of small tubercles arming the lateral and dorsal margins of the impressed area, by the different female frons, and by the coarser elytral punctures.

MALE.—Length 1.8 mm (paratypes 1.6-1.9 mm), 3.0 times as long as wide; color very dark reddish brown.

Frons subconvexly impressed to upper level of eyes with median area on lower half very strongly produced into a short, dentate, median carina, upper and lateral margins of impressed area armed by a row of about nine tubercles; surface shining, subaciculate near epistoma; vestiture sparse, inconspicuous except on epistoma.

Pronotum as in *confinis* except posterior areas with numerous impressed points (obscure-

ly reticulate in some specimens), punctures coarse, deep. Elytra as in *confinis* except discal surface smooth, shining, with impressed points, striae punctures larger, interstriae less than twice as wide as striae, declivital punctures strongly reduced in size, almost obsolete.

FEMALE.—Similar to male except frons flattened, very shallowly concave on median third, with an obscure median impressed line below, a weak carina above, marginal areas subgranulate, not tuberculate, vestiture rather uniformly distributed but more abundant and longer on margins.

TYPE LOCALITY.—Three km (2 miles) SE Acatlan, Puebla, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 21 paratypes were taken on 15-VI-67, 1500 m, No. 38, from axial pith tunnels of a cut vine, by S. L. Wood; nine paratypes are from Volcan Colima, Jalisco, Mexico, 23-VI-65, No. 104, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus facetus, n. sp.

This species is distinguished from *exquisitus* Blackman by the smaller size, by the shorter or obsolete elytral vestiture, and by the ornamentation of the female frons.

FEMALE.—Length 1.3 mm (paratypes 1.2-1.4 mm), 2.5 times as long as wide; color reddish brown.

Frons shallowly concave from eye to eye from epistoma to vertex, its surface smooth, impunctate on lower fourth, finely, closely punctured above, vestiture confined to area above eyes, consisting of a dense brush of long yellow hair.

Pronotum and elytra as in *exquisitus* except elytra glabrous.

MALE.—Similar to female except frons as in male *exquisitus*.

TYPE LOCALITY.—Rio Tempisque, Guanacaste, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and two paratypes were taken at the type locality on 25-III-64, 15 m, No. 501, from *Ficus* twigs, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus cuspidis, n. sp.

This species and *eruditus* (Schedl) have a conspicuous median process at the posterior

margin of abdominal sternum 5 that distinguishes them from all other species in the genus. This species is distinguished from *eruditus* by the convex, unarmed elytral declivity and by the different female frons.

FEMALE.—Length 1.3 mm (paratypes 1.2-1.4 mm), 2.6 times as long as wide; color yellowish brown.

Frons shining, convex, slightly flattened on median half below upper level of eyes, this area punctured on its lateral and upper margins, smooth and shining in central area, punctured area with moderately abundant, short, inconspicuous hair.

Pronotum 1.0 times as long as wide; widest on basal third, sides moderately arcuate, converging toward rather narrowly rounded anterior margin; anterior margin armed by about 12 low serrations; summit definite, very slightly in front of middle; asperities moderately coarse, confused; posterior areas strongly reticulate, punctures small, obscure. Glabrous.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, punctures small, distinct; interstriae three times as wide as striae, almost smooth, impressed points rather obscure, impunctate. Declivity steep, convex; sutural interstriae feebly elevated, 2 indistinctly impressed; striae and interstitial punctures minute, almost obsolete. Vestiture largely confined to declivity, of interstitial rows of slender bristles, each slightly longer than distance between rows, similarly spaced within a row. Sternum 5 with a conspicuous median elevation on posterior margin.

MALE.—Similar to female except frons convex, shining, surface obscurely, rather coarsely punctured. Antennal club rather small, subcircular, sutures rather strongly procurved, 1 extending one-third, 2 two-thirds club length from base, 1 finely septate.

TYPE LOCALITY.—Eight km (5 miles) E San Blas, Nayarit, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and 14 paratypes were taken at the type locality on 12-VII-65, 70 m, No. 233, from a broken tree branch, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus placatus, n. sp.

This species is distinguished from *obsoletus* (Blandford) by the larger size, by the more

strongly impressed, more finely punctured male frons, by the short, sparse female frontal vestiture, by the elytral vestiture, and by other characters.

MALE.—Length 1.7 mm (paratypes 1.5-1.8 mm), 2.8 times as long as wide; color dark brown.

Frons broadly impressed from epistoma to upper level of eyes, upper limits attaining a distinct summit on median half; surface shining, rather finely, deeply, closely punctured; an obscure, median carina sometimes present; vestiture fine, sparse, inconspicuous. Antennal club as in *obsoletus*.

Pronotum 1.13 times as long as wide; widest just behind middle, sides weakly arcuate, rather broadly rounded in front; anterior margin armed by about 10-12 low serrations; indefinite summit one-third pronotum length from anterior margin; asperities small, confused; posterior areas smooth to obscurely reticulate, punctures rather fine, moderately close. Glabrous.

Elytra 1.7 times as long as wide, 1.6 times as long as pronotum; sides straight and parallel on more than basal two-thirds, rather broadly rounded behind; striae not impressed except 1 near declivity, punctures small, spaced within row by twice diameter of a puncture; interstriae almost smooth, subshining, about four times as wide as striae, impunctate. Declivity steep, rather broadly convex; striae 1 distinctly impressed, interstriae 1 distinctly elevated, 2 weakly impressed, interstitial punctures minute. Vestiture confined to declivity, of rows of stout, blunt interstitial bristles, each slightly shorter than distance between rows, similarly spaced within a row.

FEMALE.—Similar to male except planoconvex, a median callus on lower half, area at upper level of eyes not elevated; surface shining, rather finely, closely punctured, vestiture very fine, moderately abundant, rather short.

TYPE LOCALITY.—Five km (3 miles) W Jalpitan, Veracruz, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and 27 paratypes were taken at the type locality on 25-VI-67, 50 m, Nos. 117, 100, from the hollow central axis of a cut vine, by S. L. Wood; two paratypes are from 37 km or 23 miles N Matias Romero, Veracruz, 29-VI-67, No. 126, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus decorus, n. sp.

This unique species is distinguished by the shallow declivital impression, confused elytral punctures, slender form, and fine sculpture, and by the very different female frons.

MALE.—Length 1.9 mm (paratypes 1.8-1.9 mm), 2.8 times as long as wide; color yellowish brown.

Frons convex, except weakly flattened on central half below upper level of eyes, a small callus near upper margin of flattened area, a pair of calluses in ventrolateral parts of this area; surface shining, rather finely punctured except impunctate in median area on lower half; vestiture fine, sparse, inconspicuous. Antennal club oval, sutures moderately procurved, suture 1 weakly septate.

Pronotum 1.25 times as long as wide; about as in *placatus* Wood except median serrations on anterior margin distinctly larger, and posterior area reticulate, dull, moderately fine, deep, rather widely separated. Glabrous.

Elytra 1.6 times as long as wide, 1.3 times as long as pronotum; outline as in *placatus*; surface shining, with minute points, punctures confused, rather small, moderately close. Declivity moderately steep, shallowly impressed, almost flat on median half; striae punctures in rows; interstriae 1 weakly elevated, 2 distinctly impressed; interstitial punctures fine. Vestiture confined to declivity, consisting of rows of sparse, stout bristles except absent on 2, bristles spaced in all directions by distances slightly greater than length of a bristle.

FEMALE.—Similar to male except frons flattened almost from eye to eye from epistoma to vertex, with an elevated, transverse, obtuse summit just below upper level of eyes, area from summit to epistoma on median third smooth, shining, impunctate, remaining area punctured and ornamented by rather abundant, long, yellow hair.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The male holotype, female allotype, and seven paratypes were taken at the type locality on 11-VIII-66, 30 m, No. 64, from the phloem of a recently cut log 20 cm in diameter, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus blanditus, n. sp.

This species is distinguished from *deyrollei* (Blandford) and *schwarzi* (Blackman) by the

smaller size, by the impunctate interstriae, and by the more deeply concave, more finely punctured female frons, with longer, more abundant frontal vestiture.

FEMALE.—Length 1.8 mm, 2.6 times as long as wide; color very dark reddish brown.

Frons moderately concave on central two-thirds from distinctly elevated epistoma to slightly above eyes; surface smooth, shining, very finely, closely, uniformly granulate-punctate; vestiture of uniformly distributed, rather abundant, fine, long hair, marginal setae distinctly longer. Antennal club oval, external sutures obsolete, internal septum of anterior half of suture 1 conspicuous.

Pronotum 1.1 times as long as wide; widest on basal third, sides on basal half moderately arcuate, distinctly constricted on anterior half, rather broadly rounded in front; anterior margin armed by about 12 low serrations; broad summit near middle; asperities rather small, confused; posterior areas smooth, shining, impressed points very small, moderately abundant, punctures rather coarse, deep, moderately close. Glabrous.

Elytra 1.55 times as long as wide, 1.65 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae 1 moderately, others not impressed, punctures moderately large, deep, very close, rows slightly irregular; interstriae smooth, shining, points obscure to absent, impunctate. Declivity moderately steep convex, shallowly sulcate; sutural striae narrowly impressed, interstriae 2 moderately impressed, ascending laterally, 3 higher than suture; striae punctures slightly smaller than on disc; interstitial punctures small, obsolete on 2. Vestiture largely confined to declivity, of interstitial rows, except on 2, of moderately stout bristles, each as long as distance between rows, similarly spaced within a row.

TYPE LOCALITY.—Fortín de las Flores, Veracruz, Mexico.

TYPE MATERIAL.—The female holotype was taken at the type locality on 22-V-65, at light, by D. Rabago.

The holotype is in my collection.

Araptus medialis, n. sp.

This species is distinguished by the impressed elytral declivity, by the confused punctures on the elytral disc, and by the very different female frons.

FEMALE.—Length 1.5 mm (paratypes 1.4-1.6

mm), 2.7 times as long as wide; color yellowish brown.

Frons flattened almost from eye to eye from epistoma to vertex, area below eyes dull, densely, finely punctured, central area above eyes smooth, shining, impunctate, entire lower area and marginal areas above bearing abundant, long, yellow hair, longest on upper margin. Antennal club small, oval, suture 1 weakly procurved, septate throughout, 2 very obscure.

Pronotum 1.1 times as long as wide; widest on posterior half, sides feebly arcuate on posterior half, then distinctly constricted, rather narrowly rounded in front; anterior margin armed by 10 coarse serrations, summit rather broad, at middle; asperities rather coarse, confused; posterior areas shining, almost smooth to subreticulate, impressed points rather obscure, punctures fine, not sharply impressed, rather sparse. Glabrous.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on slightly less than basal two-thirds, rather broadly rounded behind; striae not impressed; punctures rather small, confused on more than basal half of disc, in rows posteriorly; surface shining, with numerous impressed points. Declivity rather steep, strongly sulcate; striae punctures in rows, small, rather obscure; interstriae 1 weakly elevated, 2 impressed, rather abruptly, moderately elevated laterally, lateral margins rounded, distinctly higher than suture, interstriae 1 and 3 each bearing a row of small granules. Vestiture confined to declivity, consisting of rows of rather long, slender bristles except absent on interstriae 2.

MALE.—Similar to female except 2.5 times as long as wide; frons convex, shining, a small median callus at upper level of eyes, punctures small, shallow, rather close, vestiture fine, sparse, inconspicuous; declivital bristles stout, blunt, shorter, each distinctly longer than distance between rows, similarly spaced within a row.

TYPE LOCALITY.—San Isidro del General, San José, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 21 paratypes were taken at the type locality on 5-XII-63, 1000 m, No. 288, from a tree branch by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus conditus, n. sp.

This species is distinguished from *medialis* Wood by the larger size, by the absence of the

lateral half of the septum of suture 1 of the antennal club, by the coarser punctures on the pronotum and elytra, and by the very different frons in both sexes.

FEMALE.—Length 2.0 mm (paratypes 1.9-2.2 mm), 2.4 times as long as wide; color yellowish brown.

Frons shallowly, evenly concave from eye to eye from epistoma to vertex, densely, finely, uniformly punctured, covered by abundant erect, short, yellow hair of uniform length except slightly longer at margins. Antennal club moderately large, subcircular, suture 1 strongly subangulate, its median half septate, suture 2 almost obsolete.

Pronotum 1.12 times as long as wide; sides feebly arcuate and almost parallel on basal half, slightly constricted anteriorly, rather narrowly rounded in front; anterior margin acute, subserrate; summit indefinite, at middle; asperities fine, confused, covering anterior two-thirds; posterior areas shining, obscurely reticulate, punctures moderately coarse, close, deep. Glabrous.

Elytra 1.4 times as long as wide, 1.26 times as long as pronotum; outline and disc as in *medialis* except striae 1 impressed, punctures rather coarse, deep. Declivity steep, bisulcate; interstriae 1 moderately elevated, 2 rather strongly impressed, narrowly above, broadly below, lateral areas rather strongly elevated, rounded, higher than suture, 1 and 3 each with a sparse row of granules; punctures in rows, rather small, shallow. Vestiture largely confined to declivity, of interstitial rows (absent on 2) of short, coarse bristles, each almost as long as distance between rows, similarly spaced within a row.

MALE.—Similar to female except frons broadly, transversely impressed from epistoma to upper level of eyes, a rounded median summit at its upper limits; surface smooth, finely, very closely, uniformly punctured; vestiture of rather abundant, fine, short, semirecumbent hair.

TYPE LOCALITY.—Puerto Viejo, Heredia, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 14 paratypes were taken at the type locality on 12-III-64, 70 m, No. 478 (except one is No. 481), from radiate tunnels in the cambium of a cut woody vine, by S. L. Wood. One paratype is labeled Turrialba, Costa Rica, 1970, R. I. Gara.

The holotype, allotype, and paratypes are in my collection.

Araptus frugalis, n. sp.

This species is distinguished from *conditus* Wood by the minute pronotal and elytral punctures, by the much more abundant elytral vestiture, by the glabrous female frons, and by the antennal club.

FEMALE.—Length 2.1 mm (paratypes 1.9-2.2 mm), 2.7 times as long as wide; color yellowish brown.

Frons essentially as in male *conditus* except more brightly polished, less closely punctured, subglabrous, with a definite median tubercle at upper level of eyes. Antennal club elongate-oval, anterior half of suture 1 represented by a longitudinal septum extending one-third of club length from base, 2 indicated externally, profoundly procurved, extending three-fourths of club length from base.

Pronotum 1.2 times as long as wide; about as in *conditus* except summit distinctly anterior to middle, anterior margin armed by 18 rather coarse serrations, posterior areas with punctures much smaller. Vestiture of moderately abundant fine, short hair.

Elytra 1.5 times as long as wide, 1.3 times as long as pronotum; outline as in *conditus*; striae not impressed, punctures very fine, mostly in rows; interstriae four or more times as wide as striae, shining, with impressed points and very fine, irregular lines, punctures as small or smaller than those of striae, in rows. Declivity steep; sulcate; essentially as in *conditus* except punctures on striae 1 and 2 obsolete, others minute. Vestiture of rows of minute striae hair, and longer, rather fine, interstitial bristles on disc and declivity, bristles about as long as distance between rows, similarly spaced within a row, absent on declivital interstriae 2.

MALE.—Similar to female except frons convex, rather coarsely, closely punctured, median area weakly elevated and impunctate; elytral bristles slightly longer, stouter.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 36 paratypes were taken at the type locality on 11-VIII-66, 30 m, No. 80, from a cut vine 2 cm in diameter, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus laudatus, n. sp.

This species is distinguished from *frugalis* Wood by the narrow, convex frons in both sexes, with a distinct impression just above

the epistoma in the female, by the more narrowly, deeply sulcate clytral declivity, and by the subtriangular antennal club.

FEMALE.—Length 2.0 mm (paratypes 1.7-2.1 mm), 2.8 times as long as wide; color reddish brown.

Frons convex except lower third rather strongly, transversely impressed; epistoma with median area distinctly elevated; surface dull, reticulate, rather coarsely, somewhat obscurely punctured; glabrous. Antennal club subtriangular, apex somewhat pointed; mesal half of suture 1 septate, sutures not indicated externally.

Pronotum 1.2 times as long as wide; sides almost straight and parallel on basal half, rather narrowly rounded in front; anterior margin armed by 10-12 low serrations; summit rather indefinite, one-third pronotum length from anterior margin; asperities rather fine, confused; posterior areas smooth, shining, with numerous impressed points, punctures rather small, moderately close. Glabrous.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel, then slightly tapered, bisinuate truncate on median half behind; striae not impressed; all punctures rather small, confused; surface smooth, shining, with minute impressed points. Declivity narrow, steep, broadly, rather deeply sulcate; interstriae 1 distinctly elevated, 2 impressed, lateral areas abruptly, strongly elevated, rounded, armed on inner margin by a series of two to six small denticles, 1 usually with one or more small granules on basal half; punctures on striae 1 and 2 obscure to obsolete. Vestiture largely confined to declivity, consisting of a few, short, interstitial bristles.

MALE.—Similar to female except frons more evenly convex, transverse impression almost obsolete, punctures coarser, deeper; serrations on anterior margin of pronotum larger; declivital sulcus deeper, more abrupt, sutural interstriae more regularly granulate.

TYPE LOCALITY.—San Isidro del General, San José, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 48 paratypes were taken at the type locality on 13-XII-63, 1000 m, No. 313, from a broken tree branch, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus vesculus, n. sp.

This species is distinguished from *exigialis* Wood by the smoother elytral surface and by

the very different frons, particularly in the female.

FEMALE.—Length 1.2 mm (paratypes 1.1-1.3 mm), 2.5 times as long as wide; color very dark reddish brown.

Frons almost flat, median line above eyes weakly elevated, epistomal margin rather weakly elevated medially; surface reticulate, punctures rather coarse, close, sparsely punctured toward center; vestiture of rather sparse, very long hair. Antennal club subcircular, suture 1 moderately procurved, weakly septate, 2 obscure.

Pronotum 1.1 times as long as wide; as in *eruditus* (Schedl) except posterior areas shining, weakly reticulate, punctures fine, shallow, rather widely spaced. Almost glabrous.

Elytra 1.5 times as long as wide, 1.4 times as long as pronotum; outline as in *eruditus*; striae not impressed, punctures fine, deep; interstriae almost smooth, shining, twice as wide as striae, impressed points almost obsolete, impunctate. Declivity steep, sulcate; essentially as in *eruditus*. Vestiture as in *eruditus* except less abundant.

MALE.—Similar to female except frons more distinctly, more evenly convex, punctures coarser, more evenly distributed, almost glabrous.

TYPE LOCALITY.—Gnapiles, Limon, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and two paratypes were taken at the type locality on 22-VII-66, 100 m, No. 121, from a cut vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus exigialis, n. sp.

This species is distinguished from *vesculus* Wood by the more abundant, more conspicuously impressed lines on the clytral disc, by the more slender form, and by the different frons in both sexes.

FEMALE.—Length 1.3 mm (paratypes 1.3-1.4 mm), 2.7 times as long as wide; color reddish brown.

Frons shallowly, broadly concave from epistoma to above upper level of eyes; surface shining, minutely, densely, uniformly punctured; vestiture of fine, very short, abundant hair, very slightly longer on margins. Antennal club as *vesculus*.

Pronotum 1.2 times as long as wide; as in *vesculus* except posterior areas very finely,

rather strongly reticulate, punctures very fine, shallow, rather sparse. Glabrous.

Elytra 1.7 times as long as wide, 1.4 times as long as pronotum; as in *vesculus* except discal surface with points and fine, irregular lines.

MALE.—Similar to female except frons strongly convex, weakly impressed along upper margin of epistoma; surface reticulate, punctures rather coarse, close, shallow, vestiture fine, short, sparse, inconspicuous.

TYPE LOCALITY.—Fort Clayton, Canal Zone, Panama.

TYPE MATERIAL.—The female holotype, male allotype, and 10 paratypes were taken at the type locality on 22-XII-63, 30 m, No. 318, from a cut woody vine, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus refertus, n. sp.

This species is distinguished from the preceding members of this genus by the much coarser strial punctures, with impunctate discal interstriae, by the rather strongly bisulcate elytral declivity, and by the frons in both sexes.

FEMALE.—Length 2.0 mm (paratypes 1.9-2.3 mm), 2.8 times as long as wide; color light brown (mature color probably dark brown).

Frons broadly, weakly convex; surface shining, smooth and impunctate on triangular area on lower, median half, finely, closely, rather deeply punctured on lateral and upper areas; vestiture of rather abundant, moderately long, fine hair. Antennal club oval, suture 1 moderately procurved, septate, not reaching middle of club, suture 2 virtually obsolete, near apical margin.

Pronotum 1.13 times as long as wide; as in *vesculus* Wood except posterior area smooth shining, with numerous impressed points, punctures moderately coarse, deep, close. Glabrous.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel on basal two-thirds, rather broadly rounded behind; striae not impressed, punctures coarse, deep, close; interstriae as wide as striae, smooth, shining, with moderately numerous impressed points, impunctate. Declivity steep, broadly, rather strongly bisulcate; strial punctures impressed, slightly smaller than on disc; interstriae 1 moderately, gradually elevated, 2 rather strongly impressed, flat, narrow at base, rather broadly expanded on middle half, 3 rather abruptly, moderately elevated, 1 and 3 each armed on basal half by about three very small,

pointed, semirecumbent denticles, a few punctures on lower half. Vestiture sparse, hairlike, mostly on or near declivity.

MALE.—Similar to female except frons strongly, evenly convex; surface shining, rather coarsely, deeply, closely punctured, subglabrous except on and near epistoma; elytral declivity more strongly impressed, denticles slightly larger.

TYPE LOCALITY.—Volcan Zunil, Quezaltenango, Guatemala.

TYPE MATERIAL.—The female holotype, male allotype, and 16 paratypes were taken at the type locality on 27-V-64, 1000 m, No. 625, from a composite shrub, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus trepidus, n. sp.

This species is distinguished from the closely allied *poricollis* (Blandford) by the absence of declivital denticles, and by the almost continuous transverse epistomal elevation in the male.

FEMALE.—Length 1.8 mm (paratypes 1.6-1.8 mm), 2.7 times as long as wide; color dark reddish brown.

Frons broadly flattened from epistoma to vertex, median third of lower half smooth, shining, distinctly elevated, remaining area densely, finely, deeply punctured; vestiture on punctured area abundant, fine, rather long, uniformly distributed.

Pronotum 1.15 times as long as wide; as in *refertus* Wood except median line of posterior area impunctate.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; outline and disc as in *refertus* except impressed points obscure to obsolete. Declivity steep, bisulcate; interstriae 1 abruptly, distinctly elevated, 2 rather strongly impressed, flat, wider than 1 or 3, 3 abruptly, moderately elevated, 1 and 3 finely punctured, not granulate; strial punctures small, rather obscure. Vestiture of rows of very minute strial hair, and longer, slender interstitial bristles on disc and declivity, each slightly longer than distance between rows, similarly spaced within a row.

MALE.—Similar to female except frons strongly convex on upper half, strongly, transversely impressed just below middle, lower margins of impressed area elevated laterally, elevations continue to a weak median subcarinate elevation dividing impression; upper area of

frons coarsely, deeply punctured, vestiture sparse except for epistomal brush.

TYPE LOCALITY.—Volcan de Agua, Esquintla, Guatemala.

TYPE MATERIAL.—The female holotype, male allotype, and 56 paratypes were taken at the type locality on 19-V-64, 1000 m, Nos. 608 (type), 609, 612, from *Menisperma* sp., by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus frontalis, n. sp.

This species is distinguished from *trepidus* Wood by the larger size, by the punctured declivital interstriae 2, and by the different frons in both sexes.

FEMALE.—Length 2.7 mm (paratypes 2.4-2.7 mm), 2.8 times as long as wide; color dark reddish brown.

Frons broadly flattened from epistoma to vertex, weakly concave on small median area above eyes, weakly convex on small, median, impunctate area on lower half; surface shining, finely, closely, deeply punctured; vestiture of moderately abundant, fine, long hair. Antenna as in *trepidus*.

Pronotum 1.1 times as long as wide; essentially as in *trepidus*.

Elytral outline and disc as in *trepidus* except interstriae near declivity with punctures. Declivity about as in *trepidus* and *refertus* except interstriae 2 with a row of punctures as coarse as those of striae; lateral margins without granules. Vestiture confined to declivity, of fine, sparse hair.

MALE.—Similar to female except frons deeply, transversely concave on upper half of area below upper level of eyes on median three-fourths, lateral and lower margins of concavity strongly, acutely carinate except carina interrupted at median line, vestiture inconspicuous except on epistoma; anterior margin of pronotum rather coarsely serrate; declivity more strongly impressed.

TYPE LOCALITY.—Volcan Zumil, Quezaltenango, Guatemala.

TYPE MATERIAL.—The female holotype, male allotype, and five paratypes were taken at the type locality on 27-V-64, 1000 m, Nos. 625, 626, from a composite shrub, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus nigrellus, n. sp.

This and the following three form a distinctive transitional group between species previously placed in *Neodryocoetes* Eggers and *Spheroceros* Schedl. They have the antennal club large, with finely marked, strongly procurved sutures, the costal apex of the elytra ascends slightly, the declivity is convex, and the elytral vestiture tends to be confined to the declivity, closely spaced and more or less scale-like. This species is distinguished from others in the group by the more slender body, by the slender interstitial bristles, and by the subglabrous female frons.

FEMALE.—Length 1.9 mm (paratypes 1.7-2.0 mm), 2.7 times as long as wide; color black.

Frons convex, a weak, transverse impression above epistoma; surface strongly reticulate-subgranulate above eyes, almost smooth and with a few small punctures below. Antennal club rather large, oval, sutures strongly arcuate, 1 septate.

Pronotum 1.1 times as long as wide; widest on basal third, sides moderately arcuate, converging toward narrowly rounded serrate anterior margin; summit at middle; asperities moderately coarse, confused; posterior areas shining, partly subreticulate, with low, longitudinal subasperate crenulations continuing almost to base, punctures obscure, associated with crenulations. Glabrous.

Elytra 1.7 times as long as wide, 1.7 times as long as pronotum; sides straight and parallel on slightly less than basal two-thirds; tapered, then rather broadly rounded; striae not impressed except 1 weakly, punctures small, deep, spaced within row by diameter of a puncture; interstriae four times as wide as striae, almost smooth, with obscure, minute points, impunctate. Declivity moderately steep, convex; striae obscurely impressed, punctures smaller and less distinct than on disc; interstriae each with a row of very fine granules. Vestiture confined to declivity, of rows of narrowly spatulate interstitial bristles, each bristle as long as distance between rows, more closely spaced within a row.

MALE.—Similar to female in all respects.

TYPE LOCALITY.—Ten km SE Cartago, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 67 paratypes were taken at the type locality on 24-IX-63, No. 205 (type), and 3-VII-63, Nos. 13 and 15, 1800 m, from *Myrica pubescens*, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus vinnulus, n. sp.

This species is distinguished from *nigrellus* Wood by the smaller size, by the stouter form, by the more widely spaced, stouter interstitial bristles, by the almost obsolete striae punctures, and by the frons.

FEMALE.—Length 1.3 mm (paratypes 1.2-1.5 mm), 2.4 times as long as wide; color very dark brown, almost black.

Frons broadly convex, lower third with broad, smooth, shining, median line; surface densely, coarsely, deeply punctured; upper two-thirds on median two-thirds with moderately abundant, fine, long hair. Antenna essentially as in *nigrellus*.

Pronotum 1.03 times as long as wide; as in *nigrellus* except less strongly tapered anteriorly, moderately rounded in front, posterior areas dull. Glabrous.

Elytra 1.44 times as long as wide, 1.44 times as long as pronotum; sides straight and parallel on basal half, tapered then rather narrowly rounded behind; striae not impressed, punctures minute, shallow, many almost obsolete; interstriae shining, with many very minute impressed points and shallow, irregular lines, impunctate. Declivity rather steep, convex; as on disc except interstriae each with a row of small, rounded granules. Vestiture confined to declivity, of rather stout, spatulate bristles, each slightly shorter than distance between rows, similarly spaced within a row.

MALE.—Similar to female except frons rather strongly convex, surface strongly reticulate, subglabrous.

TYPE LOCALITY.—San Ignacio de Acosta, San José, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 18 paratypes were taken at the type locality on 5-VII-63, 1500 m, No. 31, from small branches of *Roupala complicata*, by S. L. Wood.

Araptus furvus, n. sp.

This species is distinguished from *vinnulus* Wood by the larger size, by the more closely spaced interstitial setae, by the presence of striae hair, and by the longer more abundant setae on the female frons.

FEMALE.—Length 2.1 mm (paratypes 1.7-2.2

mm), 2.4 times as long as wide; color almost black.

Frons convex, strongly reticulate, punctures rather small, sparse; upper two-thirds with rather dense marginal fringe of long hair, longest setae on vertex extend about two-thirds distance to upper level of eyes. Antenna as in *vinnulus*.

Pronotum 1.03 times as long as wide; as in *vinnulus* except more distinctly constricted on anterior half.

Elytra 1.5 times as long as wide, 1.6 times as long as pronotum; as in *vinnulus* except striae punctures on basal half of disc more distinct; declivital striae punctures obsolete. Vestiture confined to declivity, of rows of minute, fine, striae hair, and rows of longer, spatulate, interstitial bristles, each bristle slightly shorter than distance between rows, more closely spaced within a row, each bristle very slender on its basal half, flattened on its apical half.

MALE.—Similar to female except frons broadly convex, glabrous.

TYPE LOCALITY.—Cerro Punta (labeled Volcan Chiriqui), Chiriqui, Panama.

TYPE MATERIAL.—The female holotype, male allotype, and 45 paratypes were taken at the type locality on 11-I-64, 1800 m, No. 422, from broken *Roupala* sp. limbs, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus furvescens, n. sp.

This species is distinguished from *furvus* Wood by the smaller average size, by the feebly impressed declivital striae, with minute striae punctures indicated, and by the longer female frontal pubescence, with pubescent area extending higher on the vertex.

FEMALE.—Length 1.9 mm (paratypes 1.5-1.9 mm); as in *furvus* Wood except female frontal pubescent area extending higher on vertex, distance from upper level of eyes to upper limits of pubescent area 1.5 times distance from epistoma to upper level of eyes, longest setae on vertex almost reach epistomal margin, pubescent area extending ventrad in lateral areas almost to epistoma; declivital striae weakly impressed, punctures very small but usually visible; declivital interstitial bristles more nearly scalelike, each flattened on two-thirds or more of its length.

MALE.—Similar to female except frons more broadly convex, glabrous.

TYPE LOCALITY.—Volcan Pacaya, Esquintla, Guatemala.

TYPE MATERIAL.—The female holotype, male allotype, and 40 paratypes were taken at the type locality on 1-VI-64, 1300 m, Nos. 652, 657, 658, and cut *Roupala* limbs, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Araptus lepidus, n. sp.

This species is distinguished from the above three species in this group by the presence of discal interstitial punctures and by the stouter body form. It is distinguished from *aztecus* Wood by the narrowly rounded, serrate anterior margin of the female pronotum and by the very different female frons.

FEMALE.—Length 1.8 mm (paratypes 1.7-2.0 mm), 2.26 times as long as wide; color dark brown.

Frons convex, median area strongly impressed from slightly above upper level of eyes to just above epistoma, lower lateral margins of impressed area moderately elevated; surface shining, smooth, punctures rather fine, deep, sparse; glabrous except near epistoma. Antennal club very large, about as in *nigrellus* Wood, only median half of suture 1 septate.

Pronotum 1.05 times as long as wide; essentially as in *vinulus* Wood except crenulations or ridges on posterior half almost obsolete, posterior areas smooth, shining, punctures very small, shallow, rather sparse. Glabrous.

Elytra 1.3 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on basal half, rather broadly rounded behind; striae not impressed, punctures small, shallow, rows irregular on anterior two-thirds; interstriae smooth, shining, about four times as wide as striae, punctures uniseriate, similar to those of striae. Declivity steep, convex, sculpture essentially as on disc except punctures slightly smaller, deeper. Vestiture largely confined to posterior half, consisting of interstitial rows of slender scalelike bristles, each slightly shorter than distance between rows, similarly spaced within a row.

TYPE LOCALITY.—Volcan, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype and three female paratypes were taken at the type locality on 11-XII-63, 1000 m, No. 304, from a broken branch, by S. L. Wood.

The holotype and paratypes are in my collection.

Araptus mendicus, n. sp.

This species is distinguished from *medialis* Wood by the smooth, polished male frons, with much finer, less abundant punctures, by the finely reticulate, much more distinctly punctured female frons, with the pubescence slightly less abundant, finer, and shorter, and by the larger size.

FEMALE.—Length 1.8 mm (paratypes 1.7-1.9 mm), 2.8 times as long as wide; color rather dark reddish brown.

Frons broadly, evenly convex, reticulate and finely, distinctly, closely punctured on lower two-thirds, almost smooth and shining in small area above eyes; vestiture fine, moderately long, rather abundant, distinctly longer on margins, particularly above, shining area above eyes subglabrous. Antennal club about as in *medialis* except slightly wider.

Pronotum and elytra as in *medialis*.

MALE.—Similar to male *medialis* except frons glabrous, smooth, polished, shagreened, punctures much smaller, less abundant.

TYPE LOCALITY.—Cartago, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 22 paratypes were taken at the type locality XII-1965, from Avocado (*Persea americana*) branches, by N. L. H. Krauss.

The holotype, allotype, and paratypes are in my collection.

Araptus nanulus, n. sp.

This species evidently is not closely allied to any known species. It is distinguished by the small size, by the simple, unadorned frons in both sexes, by the greatly reduced, almost obsolete striae punctures, by the regular, almost scalelike interstitial bristles, and by other characters.

FEMALE.—Length 1.2 mm (paratypes 1.1-1.3 mm), 2.6 times as long as wide; color dark reddish brown.

Frons convex, feebly impressed just above epistoma in lateral areas; surface shining, rather coarsely, sparsely punctured and with more numerous minute points; vestiture fine, sparse, inconspicuous. Antennal club oval, as long as scape, sutures almost straight, suture 1 finely septate.

Pronotum 1.06 times as long as wide; widest near base, sides weakly arcuate on basal half,

feebly constricted on anterior half, rather narrowly rounded in front; anterior margin serrate, about 12 indistinct serrations; summit indistinct; crenulations on anterior slope rather coarse, continued as low, irregular transverse costae to well behind summit; posterior areas shining, with numerous impressed points, appearing almost subgranulate in lateral areas. Vestiture erect, moderately abundant, somewhat similar to elytral setae.

Elytra 1.6 times as long as wide, 1.5 times as long as pronotum; striae not impressed, minute punctures almost obsolete; interstriae shining, setiferous punctures confused with numerous impressed points of almost equal size. Declivity rather narrowly convex; interstriae 1 shallowly impressed; surface sculpture as on disc. Vestiture of interstitial rows of suberect apically flattened bristles; each bristle about as long as distance between rows, somewhat more closely spaced within a row.

MALE.—Similar to female in all respects.

TYPE LOCALITY.—Tampico, Tamaulipas, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and 12 paratypes were taken at the type locality on 14-VIII-72, from *Disholcopsis* galls on *Quercus virginiana*, by G. F. Frankie.

The holotype, allotype, and paratypes are in my collection.

Pseudopityophthorus festivus, n. sp.

This species is distinguished from *pulvereus* Blackman by the planoconcave male frons, by the more strongly impressed elytral declivity, by the more coarsely punctured elytral surface, and by the very different elytral vestiture.

MALE.—Length 1.8 mm (paratypes 1.6-1.8 mm), 2.8 times as long as wide; color dark brown.

Frons broadly planoconcave from epistoma to vertex; surface smooth, shining in central area, marginal areas finely punctured and bearing a dense tuft of long, yellow hair. Antenna as in *pulvereus*.

Pronotum 1.2 times as long as wide; as in *pulvereus*.

Elytra 1.6 times as long as wide, 1.3 times as long as pronotum; outline as in *pulvereus*; surface smooth, shining, punctures moderately coarse, shallow, confused, very close, width of interspaces about equal to diameter of punctures. Declivity steep flattened; moderately elevated at suture, a moderately strong sulcus in area of interstriae 2, lateral convexities rounded;

punctures minute. Ground vestiture of fine, short, stout, reclining setae; erect scales in interstitial rows except obsolete on lower half of 2 on declivity, each scale about as long as distance between rows, similarly spaced within a row, each about four to eight times as long as wide.

FEMALE.—Similar to male except frons planoconvex, pubescence sparse, fine, much shorter.

TYPE LOCALITY.—Eleven km or 7 miles NE Copala, Sinaloa, Mexico.

TYPE MATERIAL.—The male holotype, female allotype, and two paratypes were taken at the type locality on 22-VII-53, from a *Quercus* branch, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Gnathotrichus obscurus, n. sp.

This and *primus* (Bright) are the only species in the genus having confused punctures on the elytral disc. It is distinguished from *primus* by the minutely reticulate elytral surface, by the smaller size, by the steeper declivity, and by other features.

FEMALE.—Length 2.5 mm, 3.0 times as long as wide; color reddish brown.

Frons broad, broadly convex; surface shining, finely, convergently aciculate on lower two-thirds, rather finely, sparsely punctured above, a strongly developed rather low median carina from middle to upper level of eyes (concealed by pronotum above eyes). Vestiture of fine, rather sparse hair.

Pronotum 1.24 times as long as wide; as in *dentatus* Wood except posterior areas reticulate, finely, closely, rather deeply punctured.

Elytra 1.7 times as long as wide; sides straight and parallel on basal two-thirds, narrowly rounded behind; striae obsolete; surface minutely reticulate, punctures minute, obscure, confused, a few granules on interstriae 3 near declivity. Declivity steep, broadly convex; very feebly sulcate on upper half, striae punctures not evident, interstriae marked by rows of very small granules, slightly larger on 3; costal margin at apex rather strongly elevated. Vestiture of fine hair, on disc of short, moderately abundant hair and interstitial rows of very long fine hair; all hair on declivity long, moderately abundant.

TYPE LOCALITY.—Nine km NE Tezuitlan, Puebla, Mexico.

TYPE MATERIAL.—The female holotype was taken at the type locality on 2-VII-67, 1600 m.

No. 152, from a *Quercus* log 15 cm in diameter, by S. L. Wood.

The holotype is in my collection.

Gnathotrichus omissus, n. sp.

This species is distinguished from *sulcatus* (LeConte) by the minute to obsolete stria punctures on the disc, by the confused punctures on the elytral declivity, by the feebly impressed elytral declivity, by the much less strongly aciculate female frons, and by the hosts.

FEMALE.—Length 3.5 mm (paratypes 3.3-3.6 mm), 3.2 times as long as wide; color dark brown, usually with pale areas on anterior pronotum and basal and declivital areas of elytra.

Frons convex, median line obscurely elevated, surface smooth, shining, sparsely, finely punctured, median third below upper level of eyes finely aciculate; vestiture fine, sparse, inconspicuous.

Pronotum 1.3 times as long as wide; essentially as in *materiarius* (Fitch) except serrations on anterior margin coarse.

Elytra 1.8 times as long as wide, 1.5 times as long as pronotum; outline as in *materiarius*; striae not impressed, punctures small, in slightly irregular rows; interstriae smooth, shining, impressed lines and points moderately abundant. Declivity rather steep, convex; weakly, rather narrowly sulcate; stria punctures obsolete or nearly so, evidently confused; lateral convexities distinctly higher than suture, summit armed by two or three small granules. Vestiture confined to declivity, consisting of sparse hair.

MALE.—Similar to female except frontal aciculation much stronger and distributed almost from eye to eye to well above eyes; antenna without long hair; anterolateral angles of pronotum bearing a small tuft of hair.

TYPE LOCALITY.—Volcan Irazu, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 38 paratypes were taken at the type locality on 26-IX-63, 2300 m elevation, No. 207, from a broken limb of *Oreopanax nubigenus*, by S. L. Wood. One other specimen, not included in the type series is from Volcan Pacaya, Guatemala.

The holotype, allotype, and paratypes are in my collection.

Gnathotrupes dilutus, n. sp.

This species is distinguished from *crecentis* Wood by the broadly convex unarmed elytral

declivity, with longer declivital pubescence, by the larger frontal punctures, and by the smaller size.

MALE.—Length 1.7 mm (paratypes 1.6-1.7 mm), 3.2 times as long as wide; color dark brown.

Frons broadly convex, shining, weakly reticulate; punctures sparse, moderately coarse, shallow; epistomal area distinctly impressed except on median line; vestiture sparse, hairlike, inconspicuous. Antennal club subcircular, three strongly areolate sutures marked by grooves and rows of setae, segment 1 very small.

Pronotum 1.2 times as long as wide; sides feebly areolate, subparallel on more than basal half, broadly rounded in front; anterior margin armed by 14 serrations; indefinite summit well in front of middle; anterior slope rather abrupt, rather coarsely asperate; posterior areas subreticulate (mostly wavy lines), punctures very minute, sparse. Glabrous.

Elytra 1.9 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on more than basal three-fourths, very broadly rounded behind, striae not impressed; surface shining, almost smooth, punctures minute, almost obsolete, confused. Declivity confined to less than posterior fourth, very steep, broadly convex; punctures larger and deeper than on disc, confused. Vestiture confined to declivity, of rather abundant, fine, short, and rather long hair.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The male holotype and two male paratypes were taken at the type locality on 17-IX-63, 1300 m, No. 184, from *Miconia caudata*, by S. L. Wood.

The holotype and paratypes are in my collection.

Gnathotrupes crecentis, n. sp.

This species is distinguished from *dilutus* Wood by the steep, almost flat elytral declivity which is armed by two pairs of moderately large tubercles on interstriae 3, by the very short declivital vestiture, by the much finer frontal punctures, and by the smaller size.

FEMALE.—Length 2.0 mm (paratypes 1.9-2.0 mm), 3.0 times as long as wide; color dark brown.

Frons as in *dilutus* except punctures very fine; sparse setae very long. Pronotum as in *dilutus*.

Elytral outline as in *dilutus*; stria punctures very small, in definite rows, declivity steeper and

much flatter than in *dilutus*, punctures larger, confused, interstriae 3 with two pointed denticles one-third and two-thirds declivital length from base. Vestiture mostly very short, a few longer hairs.

MALE.—Similar to female except lower half of frons more distinctly, transversely impressed, setae short; striae punctures minute, confused; declivital denticles slightly larger, punctures much smaller, vestiture shorter.

TYPE LOCALITY.—Volcan, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and eight paratypes were taken at the type locality on 11-XII-63, 1000 m, No. 308, from a recently cut tree limb, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus simplicis, n. sp.

In this species the frons is rather coarsely aciculate except for a small, median, raised, central granular area, and declivital spines 2 and 3 are essentially absent.

FEMALE.—Length 1.8 mm, 2.8 times as long as wide; color light brown.

Frons convex, shining, coarsely, convergently aciculate except on small, median, subcircular, raised granular area at center; vestiture inconspicuous. Antennal club broadly obovate; sutures 1 and 2 distinctly procurved, obtusely subangulate, finely septate except at middle, without long setae on posterior face.

Pronotum 1.3 times as long as wide; sides straight and subparallel on basal half, narrowly rounded in front; summit indefinite, anterior to middle; anterior slope finely, closely asperate; anterior margin a rather strongly, acutely elevated continuous costa; posterior areas reticulate, punctures obscure, very shallow, moderately close. Glabrous.

Elytra 1.7 times as long as wide, 1.4 times as long as pronotum; disc smooth, shining, punctures small, shallow, some obsolete, evidently at least slightly confused. Declivity occupying posterior third, excavated as in other members of this genus; face smooth, shining, indistinct punctures small, confused; lateral margins rather strongly, continuously elevated on heart-shaped pattern from suture to moderately near posterior margin, gradually increasing in height posteriorly, ending precipitously on lower, median angle; spine 1 on interstriae 1 at base very small, pointed, 2 feebly indicated, 3 rounded, not projecting. Glabrous.

TYPE LOCALITY.—Palin, Esquintla, Guatemala.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 19-V-64, at 300 m, No. 685, in a *Ficus* twig, by S. L. Wood.

The holotype is in my collection.

Tricolus inornatus, n. sp.

This species is distinguished from *simplicis* Wood by the much more slender body, by the narrower declivital excavation, and by the absence of declivital spine 1.

FEMALE.—Length 1.8 mm, 3.2 times as long as wide; color very dark brown.

Frons evidently as in *simplicis*, upper half concealed. Antennal club subcircular, sutures almost straight; posterior face with two or three long hairs.

Pronotum 1.4 times as long as wide; essentially as in *simplicis* except punctures on posterior areas deeper, distinct, a slight irregularity at base anterior to scutellum. Glabrous.

Elytra 2.0 times as long as wide; disc as in *simplicis*. Declivity similar to *simplicis* except excavated area much narrower, spine 1 represented only by a small callus, 2 represented by a distinct callus, 3 more broadly rounded, not projecting. Glabrous.

TYPE LOCALITY.—Fifteen km SE Cartago, Cartago, Costa Rica.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 24-IX-63, at 2800 m, No. 248, from a branch of *Siparuna nicaraguaensis*, by S. L. Wood.

The holotype is in my collection.

Tricolus inaeffectus, n. sp.

This species is distinguished from *inornatus* Wood by the larger, stouter body, by the impressed lower, lateral areas of the frons, by the pronotum, and by slightly wider elytral declivity.

FEMALE.—Length 2.6 mm, 2.9 times as long as wide; color black except elytral disc and antennae yellowish brown.

Frons as in *simplicis* Wood except granular area more strongly elevated, lateral areas impressed just above epistoma; mandibles apparently elongate. Antennal club broadly oval, sutures straight; posterior face ornamented by more than 20 long hairs.

Pronotum 1.2 times as long as wide; outline about as in *simplicis* except sides on slightly more than anterior half distinctly constricted,

anterior costa more nearly serrate; posterior areas reticulate, punctures moderately fine, rather deep. Glabrous.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; as in *inornatus* except excavated declivital area distinctly wider, calluses of spines 1 and 2 less conspicuous. Glabrous.

TYPE LOCALITY.—Volcan Poas, Heredia, Costa Rica.

TYPE MATERIAL.—The unique female holotype was taken at the type locality on 19-XI-63, 2600 m, by S. L. Wood.

The holotype is in my collection.

Tricolus cecropii, n. sp.

This species is distinguished by the moderately stout body, by the poorly developed declivital spines, by the strongly produced, acute, strongly serrate anterior margin of the pronotum, by the large, subreniform granular area on the frons, and by the habits.

FEMALE.—Length 2.4 mm (paratypes 2.2-2.5 mm), 2.6 times as long as wide; color dark brown.

Frons somewhat flattened on median three-fourths from epistoma to upper level of eyes, most of flattened area occupied by a raised, granular area of subreniform shape. Antennal club obscurely subtriangular, sutures weakly procurved; very few long setae on posterior face.

Pronotum 1.3 times as long as wide; widest near base, sides weakly converging on basal two-thirds, anterior margin very strongly, subacutely produced and coarsely, closely serrate, 14-16 serrations; summit indefinite, near middle; anterior slope armed by rather large, low asperities; posterior area reticulate, punctures sparse, fine, shallow. Glabrous.

Elytra 1.5 times as long as wide, 1.2 times as long as pronotum; disc smooth, punctures small, shallow, confused. Declivity moderately steep, excavated area narrower and not as deep as in other species; spines 1 and 2 small, pointed tubercles, 1 slightly larger, 3 represented by a low, poorly developed fold; subapical margin subacute, not produced. Subglabrous.

MALE.—Similar to female.

TYPE LOCALITY.—Turrialba, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and eight paratypes were taken at the type locality on 5-VII-63, at 700 m, No. 19, from

fallen *Cecropia peltata* leaf petioles, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus intrusus, n. sp.

This species is distinguished from the almost identical *cecropii* Wood by the much more acutely produced anterior margin of the pronotum, by the coarser punctures on the pronotal disc, and by the finer, less numerous punctures in the excavated area of the elytral declivity.

FEMALE.—Length 2.4 mm (paratypes 2.1-2.2 mm), 2.7 times as long as wide; color dark brown.

As in *cecropii*, except anterior margin of pronotum much more acutely produced, tridentate at its apex (a total of nine serrations on entire margin); punctures on discal area of pronotum distinctly larger, evidently more numerous; punctures on elytral disc evidently slightly smaller; punctures in excavated face of declivity much smaller, much less numerous.

TYPE LOCALITY.—El Laurel, 12 km SW Caracas, Venezuela.

TYPE MATERIAL.—The female holotype and two female paratypes were taken at the type locality on I-V-70, at 1300 m, No. 475, from petioles of fallen *Cecropia* leaves, by S. L. Wood.

The holotype and paratypes are in my collection.

Tricolus ardis, n. sp.

This species is distinguished by the acutely angulate, strongly serrate anterior margin of the pronotum, by the aciculate frons which also has a small, elevated granulate area, and by the elytral declivity.

FEMALE.—Length 2.3 mm (paratypes 2.1-2.5 mm), 3.3 times as long as wide; head, prothorax, and elytral declivity dark brown, basal two-thirds of elytra light brown.

Frons convex, convergently aciculate except for a small, transversely oval granular area at center occupying median third. Antennal club broadly obovate, sutures moderately arcuate; posterior face without long hair.

Pronotum 1.5 times as long as wide; sides almost straight and parallel on basal half, arcuately converging to subacute median point in front; anterior margin coarsely serrate; summit indefinite; anterior slope finely, closely asperate; posterior areas reticulate, punctures fine, shallow, not close, some of those at base connected by transverse lines. Glabrous.

Elytra (including spines) 2.1 times as long as wide; sides straight and parallel to base of declivity, arcuately converging to apex of spine 3, apices of spine 3 separated by a distance equal to width of elytra, posterior emargination broadly, somewhat U-shaped; surface almost smooth, shining, punctures shallow, small, largely confused, their centers apparently reticulate. Declivity moderately steep, excavated in a narrowly heart-shaped area; lateral areas abruptly, rather strongly elevated, spine 1 at base on interstriae 1 rather small, sharply pointed, 2 one-third declivital length from base, twice as long as wide, 3 projecting posteriorly, conspicuously longer than wide (as seen in lateral aspect). Glabrous except for an occasional hairlike seta near declivity.

MALE.—Similar to female except for apical terga of abdomen.

TYPE LOCALITY.—Escasu, San José, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 22 paratypes were taken at the type locality on 2-X-63, at 1300 m, Nos. 215, 218, from a tree seedling, by S. L. Wood. Two paratypes are from Cerro Punta near Volcan Chiriqui, Chiriqui, Panama, 11-I-64, 1300 m, Nos. 380, 401, tree branches, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus parsus, n. sp.

This species is distinguished from *inaffectus* Wood by the more narrowly rounded anterior margin of the pronotum, by the acutely elevated, subapical margin of the declivity, and by the very different declivital spine 3.

MALE(?).—Length 2.3 mm, 2.6 times as long as wide; color almost black.

Frons largely concealed, evidently not aciculate, finely granulate, raised granular area as in *ardis* Wood. Antennal club broadly subquadrate, sutures feebly procurved.

Pronotum 1.3 times as long as wide; about as in *ardis* except anterior margin narrowly rounded, not angulate, serrations with their bases contiguous. Glabrous.

Elytra 1.6 times as long as wide, 1.3 times as long as pronotum; sides straight and parallel on basal two-thirds, gradually narrowed, rather broadly rounded behind, with a conspicuous, rather narrow emargination at suture; surface almost smooth, shining, punctures largely con-

fused, small, moderately deep. Declivity much as in *inaffectus* except slightly wider, margins slightly higher, spine more strongly developed but not pointed, spine 3 more distinctly converging mesad, its crest not as high, its apex rounded, distinctly, weakly projecting; subapical margin acutely elevated, projecting moderately to produce sides of median emargination. Glabrous except for an occasional hairlike seta on sides.

TYPE LOCALITY.—Fifteen km SE Cartago, Cartago, Costa Rica.

TYPE MATERIAL.—The unique holotype, presumably a male, was taken at the type locality on 24-IX-63, at 1800 m, No. 196, from a woody vine 5 mm in diameter, by S. L. Wood.

The holotype is in my collection.

Tricolus rufithorax, n. sp.

This species is distinguished from *parsus* Wood by the larger size, by the well-developed declivital spines, by the subserrate anterior margin of the pronotum and by other characters.

FEMALE.—Length 2.7 mm (male 3.1 mm), 2.4 times as long as wide; color reddish brown except elytra black.

Frons convex, reticulate-granulate above, somewhat punctate laterally, subcircular raised, granular area occupying slightly more than median third to upper level of eyes; glabrous except on epistoma. Antennal club moderately large, almost subtriangular, sutures weakly procurved; posterior face bearing two long hairs.

Pronotum 1.2 times as long as wide; outline as in *parsus* except anterior margin less narrowly rounded, its elevated costa weakly serrate; posterior area strongly reticulate, very low, strongly transverse, asperities continuing from summit to base. Glabrous.

Elytra 1.4 times as long as wide, 1.2 times as long as pronotum; outline about as in *parsus* except sutural emargination smaller and spine 3 projecting very slightly; disc smooth, shining, punctures fine, confused. Declivity with contours much as in *parsus* except spine 1 conical, slightly larger, 2 cylindrical, projecting slightly more than its basal width, 3 low, costate, ending abruptly, not projecting, directed toward sutural apex but ending remote from it, subapical margin acutely elevated but less strongly than in *parsus*. Glabrous except for a few setae on sides.

MALE.—Similar to female except without long hair on posterior face of antennal club; declivital spine 2 abnormal, apparently chewed off on both sides.

TYPE LOCALITY.—Finca Gromaco on Rio Coto Brus, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype and male allotype were taken at the type locality on 14-VII-63, at 500 m, No. 65, from a woody vine (liana) less than 1 cm in diameter, by S. L. Wood.

The holotype and allotype are in my collection.

Tricolus badius, n. sp.

This species is distinguished from *nodifer* Blandford by the smaller size, by the reddish brown color, and by the more widely spaced third spines which are very close to the subapical margin.

FEMALE.—Length 2.8 mm (paratypes 2.3-2.8 mm), 2.6 times as long as wide; color reddish brown.

Frons as in *rufithorax* Wood except raised granular area occupying one-fourth space between eyes. Antennal club subcircular, sutures rather weakly procurved; posterior face with up to a dozen long hairlike setae.

Pronotum 1.2 times as long as wide; as in *rufithorax*.

Elytra 1.5 times as long as wide; outline as in *rufithorax* except spine 3 projecting more strongly; disc smooth, shining, with very fine, irregular lines, punctures fine, shallow, confused. Declivity as in *rufithorax* except spine 2 more slender, twice as long as wide; 3 close to costal margin, separated by about half its basal width, subapical margin reaching its posterior margin, spine 3 projecting, subtriangular, almost as high as its basal width; subcostal margin acutely, not strongly elevated. Subglabrous.

MALE.—Similar to female except antennal club with fewer long setae.

TYPE LOCALITY.—Pandora, Limon, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 16 paratypes were taken at the type locality on 23-VIII-63, 50 m, Nos. 147, 150, from a tree branch, by S. L. Wood. One paratype is from Peralta, Cartago, Costa Rica, 10-III-64, 500 m, No. 462, woody vine, one paratype is from Cerro Punta near Volcan Chiriqui, Chiriqui, Panama, 11-I-64, 1800 m, No. 376, tree branch; 13 paratypes are from Ft. Clayton, Canal Zone, Panama, 22-XII-63, from various collections; all taken by me.

The holotype, allotype, and paratypes are in my collection.

Tricolus partilis, n. sp.

This species is distinguished from *nodifer* Blandford by the smaller size, by the brown color, by the more slender body form, by the more slender spine 3 on the elytral declivity, and by other characters.

MALE.—Length 1.8 mm (paratypes 1.7-1.8 mm), 2.8 times as long as wide; color brown.

Frons as in *nodifer* except granular area distinctly elevated; antennal club subcircular.

Pronotum 1.3 times as long as wide; as in *nodifer* except transverse crenulations in discal area reduced to a few transverse lines.

Elytra 1.7 times as long as wide, 1.3 times as long as pronotum; essentially as in *nodifer* except spines 1, 2, and 3 more slender, 3 distinctly longer; lower declivity less broadly flattened; subapical margin more strongly elevated.

FEMALE.—Similar to male except posterior face of antennal club with several long hairlike setae.

TYPE LOCALITY.—Volcan, Puntarenas, Costa Rica.

TYPE MATERIAL.—The male holotype, female allotype, and one paratype were taken at the type locality on 11-XII-63, at 1000 m, No. 304, from a tree branch, by S. L. Wood. One paratype is from Finca Gromaco on Rio Coto Brus, Puntarenas, 14-VII-63, 500 m, No. 59, tree branch, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus fenoris, n. sp.

This species is distinguished from *partilis* Wood by the larger size, by the more slender body form, and by the longer, more slender declivital spines.

MALE.—Length 2.1 mm, 3.0 times as long as wide; color very dark brown.

Frons, antenna, and pronotum as in *partilis*; pronotum 1.3 times as long as wide.

Elytra 1.7 times as long as wide, 1.3 times as long as pronotum; as in *partilis* except spine 2 three times as long as wide, spine 3 about one and one-half times as long as wide; subapical margin more strongly produced.

TYPE LOCALITY.—Fifteen km SE Cartago, Cartago, Costa Rica.

TYPE MATERIAL.—The unique male holotype was taken at the type locality on 24-IX-63, at 1800 m, No. 196, from a woody vine, by S. L. Wood.

The holotype is in my collection.

Tricolus frontalis, n. sp.

This species is distinguished by the aciculate frons, with the granular area absent, and by the slender declivital spine 3.

FEMALE.—Length 2.4 mm, 3.1 times as long as wide; color dark brown.

Frons convex, aciculate, granulate area absent.

Pronotum 1.3 times as long as wide; as in *fenoris* Wood except anterior margin more broadly rounded.

Elytra 1.9 times as long as wide, 1.5 times as long as pronotum; about as in *fenoris* except declivital spine 3 longer, almost three times as long as wide, spine 3 similar in shape to 2 but larger, about two and one-half times as long as wide; subapical margin rather poorly elevated.

TYPE LOCALITY.—Eight km NE Teziutlan, Puebla, Mexico.

TYPE MATERIAL.—The unique male holotype was taken at the type locality on 27-VI-53, at 1600 m, from a tree branch, by S. L. Wood.

The holotype is in my collection.

Tricolus capitalis, n. sp.

This species is distinguished from *ruficollis* (Fabricius) by the slightly smaller size and by the much less strongly elevated subapical margin of the elytral declivity (thereby eliminating the sutural notch).

FEMALE.—Length 2.1 mm, 2.7 times as long as wide; color rather dark reddish brown.

Frons convex, finely rugose-reticulate; granular area distinctly elevated, subcircular, occupying median third to upper level of eyes; glabrous. Antennal club rather broadly obovate, sutures moderately procurved.

Pronotum 1.3 times as long as wide; sides straight and parallel on basal half, rather narrowly rounded in front; anterior margin armed by about eight coarse teeth (bases of some contiguous); summit indefinite, about one-third pronotum length from anterior margin; anterior slope rather coarsely, closely asperate; posterior areas reticulate, punctures fine, those near base with transverse line or minute shining elevation. Glabrous.

Elytra 1.6 times as long as wide, 1.2 times as long as pronotum; disc smooth, shining, punctures rather fine, shallow, confused. Declivity excavated basically as in other members of the genus; spine 3 stout, subtriangular, projecting

slightly, as in *ruficollis*, separated from subapical margin by width of spine; lower declivity flattened below spine 3 to lateral margin of spine 3; subapical margin almost straight, rather weakly elevated, without sutural emargination, not at all produced as in *ruficollis*.

TYPE LOCALITY.—Thirteen km S El Hato del Volcan, Chiriqui, Panama.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 7-I-64, at 1000 m, No. 371, from a tree seedling, by S. L. Wood.

The holotype and paratype are in my collection.

Tricolus naevus, n. sp.

This species is distinguished from *ovicollis* Blandford by the slightly larger size, by the very broad subreniform granular area on the frons, by the narrowly flattened area below declivital spine 3, and by the much stouter declivital spine 3.

FEMALE.—Length 2.9-3.3 mm, 2.7 times as long as wide; color almost black.

Frons broadly convex, with lateral areas just above epistoma conspicuously impressed; sculpture of lower area irregular, smooth and shining laterally, becoming subreticulate above; granular area very broad, occupying median two-thirds of area between eyes at least three times longer than wide, its lower margin almost straight, strongly emarginate on its upper margin. Antennal club subtriangular but narrower than in *ovicollis*.

Pronotum 1.3 times as long as wide; as in *ovicollis* except anterior margin more narrowly rounded and more coarsely serrate.

Elytra 1.6 times as long as wide, 1.2 times as long as pronotum; as in *ovicollis* except declivital area below spine 3 flattened only to median margin of spine 3; spine 3 stout, subtriangular, its length about equal to its basal width. Subglabrous.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype and two female paratypes were taken at the type locality on 24-X-64, 1300 m, No. 241, from a *Phoebe mexicana* branch, by S. L. Wood. One female paratype bears identical data except it is No. 244, from a woody vine, and one with identical data is 26-XI-64, No. 271, *Werklia insignata*.

The holotype and paratypes are in my collection.

Tricolus scitulus, n. sp.

This species is distinguished from *ovicollis* Blandford by the smaller size, by the uniform brown color, and by the flatter lower declivity below spine 3.

FEMALE.—Length 1.9-2.3 mm, 2.6 times as long as wide; color dark brown, young adults uniformly brown.

Frons and pronotum as in *ovicollis* except anterior margin of pronotum more narrowly rounded. Antennal club not quite as broad.

Elytra as in *ovicollis* except area below spine 3 flatter.

MALE.—Similar to female except antennal club slightly smaller, with fewer long setae on posterior face.

TYPE LOCALITY.—Tapanti, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and nine paratypes were taken at the type locality on 26-XI-63, at 1300 m, Nos. 241, 265, from *Phoebe mexicana* branches, by S. L. Wood. One paratype is from Turrialba, Cartago, Costa Rica, 5-VII-63, 700 m, No. 23, *Crotalaria*, S. L. Wood. One paratype is from Cerro Punta near Volcan Chiriqui, Chiriqui, Panama, 11-I-64, 1800 m, No. 406, tree branch, S. L. Wood. A series from La Carbonera Experimental Forest, 50 km NW Merida, Merida, Venezuela, was not included in the type series.

The holotype, allotype, and paratypes are in my collection.

Tricolus peltatus, n. sp.

This species is distinguished from the similar but remotely related *nodifer* Blandford by the subapical tubercle on declivital spine 3, by the less strongly elevated subapical margin on the declivity, by the longer declivital spine 3, and by other characters.

FEMALE.—Length 3.0 mm (paratypes 2.7-3.1 mm), 3.0 times as long as wide; color very dark brown.

Frons, pronotum, and elytral disc as in *nodifer*, except granular area on frons slightly larger. Pronotum 1.3 times as long as wide.

Elytral declivity with basic contours as in *nodifer*, except spine 1 slightly larger, spine 2 more slender; spine 3 slightly longer than wide, more erect than in *nodifer*, with a conspicuous tubercle on dorsomedian subapical margin; subapical margin less strongly produced and less strongly elevated than in *nodifer*.

MALE.—Similar to female except posterior face of antennal club without long hair.

TYPE LOCALITY.—Cerro Punta near Volcan Chiriqui, Chiriqui, Panama.

TYPE MATERIAL.—The female holotype, male allotype, and two paratypes were taken at the type locality on 11-I-64, 1800 m, No. 376 (holotype), 392 (allotype), 372 and 385 (paratypes), from tree branches and a woody vine (No. 385), S. L. Wood. Three paratypes are from Volcan Poas, Heredia, Costa Rica, 19-XI-63, 2500 m, No. 260, tree seedling, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus aciculatus, n. sp.

This species is distinguished from *peltatus* Wood by the smaller size, by the more slender form, by the absence of a raised granular area on the frons, and by the presence of a very small granule in each puncture in the excavated area of the declivity.

FEMALE.—Length 2.7 mm (paratypes 2.2-2.7 mm), 3.1 times as long as wide; color very dark brown.

Frons convex, rather weakly impressed above epistoma in lateral areas; surface shining, conspicuously aciculate on lateral thirds, obscurely on median third, granular area found in other species entirely absent; median area above epistoma with a broad, low, elevated area somewhat similar to allied species. Antennal club large, broadly, asymmetrically oval, sutures almost straight, obscure, indistinctly septate on central third; a very few long setae on posterior face.

Pronotum 1.3 times as long as wide; pronotum as in *nodifer* Blandford except anterior margin finely subserrate.

Elytra 1.7 times as long as wide, 1.4 times as long as pronotum; elytra as in *peltatus* except more slender, discal punctures slightly larger, punctures on declivital face each with a fine granule; declivital spines 2 and 3 more slender than in *peltatus*, 3 distinctly longer, bearing a subapical tubercle as in *peltatus*; subapical margin of declivity as in *peltatus* except from dorsal aspect median fifth abruptly, shallowly emarginate. Subglabrous.

MALE.—Similar to female except posterior face of antennal club without long hair.

TYPE LOCALITY.—Ten km or 6 miles SE Tezuitlan, Puebla, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and 46 paratypes were taken at the

type locality on 2-VII-67, at 1600 m, Nos. 137 and 145, from small *Miconia* branches, No. 142 from *Rubus*, No. 149 host unknown, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Tricolus bicolor, n. sp.

This species is distinguished by the color pattern, by the more dorsal position of the frontal granular area, and by the unique declivity.

FEMALE.—Length 3.4 mm (paratype 3.1 mm), 2.7 times as long as wide; color of dorsal surface yellowish brown except pronotal disc from summit to base and elytral declivity black, ventral surface black except legs light brown.

Frons largely concealed, evidently convex above, shallowly impressed on lateral thirds of lower half, median area distinctly elevated above epistoma; granular area more dorsal in position than normal, largely above upper level of eyes, apparently wider than long. Antennal club slightly asymmetrical, sutures weakly procurved.

Pronotum 1.1 times as long as wide; sides feebly arcuate and subparallel on basal half, rather strongly converging anteriorly to rather narrowly rounded, serrate anterior margin; sculpture about as other *Tricolus*.

Elytra 1.7 times as long as wide, 1.5 times as long as pronotum; sides straight and parallel to level of sutural apex, truncate behind except for projecting spine 3 and small sutural emargination; disc and upper declivity about as in *nodifer* Blandford except declivital excavation more broadly impressed; spine 3 on extreme posterolateral margin, somewhat laterally compressed, appearing quadrate from lateral aspect, distinctly longer than wide, with a conspicuous tubercle on dorsomedian apical angle, its mesal surface somewhat concave or grooved toward its apex; subapical margin acutely, weakly elevated, a shallow sutural emargination.

TYPE LOCALITY.—Lower slopes of Volcan Poas, 24 km NW Heredia, Costa Rica.

TYPE MATERIAL.—The female holotype and one female paratype were taken at the type locality on 14-VII-63, 1500 m, No. 44, from a small branch, by S. L. Wood.

The holotype and paratype are in my collection.

Tricolus amplus, n. sp.

This species is distinguished by the large size, by the black color, by the displaced de-

clivital spine 2, by the subtriangular granular area on the frons, and by other characters.

FEMALE.—Length 3.7 mm (paratypes 3.6-3.9 mm), 2.5 times as long as wide; color black.

Frons convex above, lateral areas above epistoma moderately impressed, lateral areas below upper level of eyes distinctly acieulate; median granular area largely above eyes, wider than long, subtriangular, its apex directed orad; vesture of short, sparse hair. Antennal club slightly asymmetrical, obscurely subtriangular, sutures weakly procurved.

Pronotum 1.13 times as long as wide; about as in *bicolor* except basal area of disc more coarsely, more extensively asperate.

Elytra 1.4 times as long as wide, 1.3 times as long as pronotum; outline as in *bicolor* except posterior margin bisinuate; disc subshining, almost smooth, punctures very fine, shallow, confused. Declivity much as in allied species except lateral margin less abruptly, less strongly elevated; spine 1 in usual position at base on interstriae 1; spine 2 larger and stouter than usual and in position of interstriae 2, its base beginning at level of apex of spine 1 (much more anterior in position than all other species); spine 3 strongly, laterally compressed, on lateral margin, quadrate, distinctly wider than long, a conspicuous tubercle on its dorsomesal apical angle; subapical margin acute, distinctly, not strongly produced, extending to base of spine 3. Subglabrous.

MALE.—Similar to female, including long hair on posterior face of antennal club.

TYPE LOCALITY.—Ten km or 6 miles NE Teziutlan, Puebla, Mexico.

TYPE MATERIAL.—The female holotype, male allotype, and six paratypes were taken at the type locality on 2-VII-67, at 1600 m, No. 140, from a limb 5-15 cm in diameter, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Amphicranus mirandus, n. sp.

This species is distinguished from *hybridus* Blandford by the pronounced sexual dimorphism, by the cleft female epistoma, by the more slender antennal club, by the absence of an elevated line on the lateral margins of the pronotum, and by the very different declivity.

FEMALE.—Length 2.5 mm (paratypes: females 2.5-2.8 mm, males 2.8-3.5 mm), 3.3 (male 3.9) times as long as wide; color yellowish

brown except anterior third of pronotum and elytral declivity darker brown.

Frons convex above, weakly, transversely impressed just below upper level of eyes, epistomal area protuberant and sharply cleft on median line from epistomal margin to transverse impression; surface subrugose-reticulate, a few fine punctures obscurely indicated; glabrous except along epistomal margin and on sides of head near eyes. Antennal funicle 2-segmented; club 1.6 times as long as wide, oval, sutures weakly procurved, posterior face with some long hair.

Pronotum 1.4 times as long as wide; widest at base, sides straight distinctly converging on basal three-fourths, very broadly rounded in front; anterior margin unarmed; summit on anterior fifth; anterior slope very steep, asperities rather sparse; posterior areas finely reticulate, punctures minute, obscure. Glabrous.

Elytra 1.9 times as long as wide, 1.4 times as long as pronotum; sides almost straight and parallel on basal three-fourths, broadly, rather deeply U-shaped behind between lateral processes; declivity confined to posterior two-fifths; disc as in *hybridus*. Declivity basically as in *hybridus*; interstriae 1 at base with a minute tubercle, 2 with a slender spine about three times as long as its basal width; lateral margin following same course as in *hybridus* but only weakly elevated and not serrate; lateral processes about as long as their basal widths, separated by slightly greater distance than depth of emargination between them; mesal margin of terminal processes bearing a strongly elevated, laterally compressed, longitudinal process, its upper margin horizontal, its posterior margin subvertical. Disc glabrous, rather sparse, fine hair on declivity.

MALE.—Similar to female except frons broadly convex, epistomal area normal; anterior margin of pronotum vertical, appearing shallowly, broadly emarginate from above; declivital spines and lateral processes distinctly longer; lateral declivital processes with margins directed mesad (not dorsad) thereby forming a pronounced constriction in area of emargination just anterior to its middle; face of declivity glabrous.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 30 paratypes were taken at the type locality on 11-VIII-66, at 30 m, No. 85, from a tree limb 5-15 cm in diameter, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Amphicranus tornatilis, n. sp.

This species is distinguished from *spectabilis* (Wood) by the larger size, by the color, by the coarsely serrate, more narrowly rounded anterior margin of the pronotum, and by the more gradual, more strongly explanate elytral declivity.

FEMALE.—Length 2.7 mm (paratypes 2.5-2.8 mm), 3.5 times as long as wide; color yellowish brown with head, anterior half of pronotum, and posterior half of elytra black.

Frons as in *spectabilis*.

Pronotum 1.6 times as long as wide; as in *spectabilis* except anterior margin more narrowly rounded and armed by nine coarse serrations, median one prominent, and posterior areas less strongly reticulate, more shining.

Elytra 1.9 times as long as wide, 1.3 times as long as pronotum; as in *spectabilis* except disc very smooth, brightly shining, declivity not as steep, posterior margin more strongly explanate, and upper slope of lower major prominence on margin of declivity horizontal (as in *speciosus* Schedl), not ascending. Glabrous.

TYPE LOCALITY.—Six km S San Vito, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype and seven paratypes, apparently all females, were taken at the type locality on 19-21-III-67, from a dead tree, by D. D. Sliwa.

The holotype and paratypes are in my collection.

Amphicranus macellus, n. sp.

This species is distinguished from *balteatus* Blandford by the much smaller size, by the color, by the absence of a granular area on the frons, by details of the declivital sculpture, and by other characters.

MALE.—Length 1.9 mm (paratypes 1.8-1.9 mm), 4.0 times as long as wide; color yellowish brown.

Frons uniformly convex; surface evidently minutely rugose-reticulate. Antennal funicle 3-segmented; club 1.3 times as long as wide, broadly oval, sutures rather weakly procurved.

Pronotum 1.8 times as long as wide; sides straight and almost parallel on basal three-fourths, rather narrowly rounded in front; anterior margin acutely elevated, subserrate except median serration slightly larger and basally separate from marginal costa; indistinct summit

on anterior fourth; anterior slope steep, convex, most conspicuous asperities arranged in a sub-transverse row; surface subreticulate, punctures small, very shallow. Glabrous.

Elytra 2.4 times as long as wide, 1.4 times as long as pronotum; outline as in *balteatus* except apical emargination wider, U-shaped; disc smooth, stria punctures fine, shallow, in rows. Declivity broadly, deeply excavated much as in *balteatus* except steeper and somewhat less strongly explanate; basal margin with spines on interstriae 1 and 2 minute, spine on 3 moderately large, pointed, lateral margin acutely, strongly elevated to small denticle on mesal side at level of sutural apex, margin obliquely descending from denticle to apex of lateral process on a straight line; sutural emargination narrowly U-shaped, 1.5 times as deep as wide; declivital face reticulate, shining, punctures very obscurely indicated. Glabrous.

FEMALE.—Similar to male except declivity less strongly explanate, its lateral margins less strongly elevated; sutural emargination as long as wide.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The male holotype, female allotype, and two male paratypes were taken at the type locality on 11-VIII-66, at 30 m, No. 85, from a tree limb, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Amphicranus spinescens, n. sp.

This species is distinguished by the absence of a fine, raised line on the lateral margins of the pronotum, by the very coarse, slender serrations on the anterior margin of the pronotum, and by the different armature on the elytral declivity.

FEMALE.—Length 2.4 mm (paratypes 2.0-2.4 mm), 4.4 times as long as wide; color yellowish brown, anterior half of pronotum and posterior third of elytra a darker brown.

Frons transversely concave, lower third weakly, transversely impressed, surface rugose-reticulate except subgranular on oval area on median half at upper level of eyes; vestiture confined to epistomal margin. Antennal funicle 3-segmented; club oval, 1.4 times as long as wide.

Pronotum 1.8 times as long as wide; sides straight and parallel on basal two-thirds, narrowly, strongly produced in front; anterior margin armed by 10-12 very coarse, basally sepa-

rate serrations, median ones slender; summit on anterior third; anterior slope moderately steep, convex, anterior asperities coarse, smaller toward summit; posterior areas finely reticulate, punctures minute, almost obsolete. Glabrous.

Elytra 2.4 times as long as wide, 1.4 times as long as pronotum; sides straight and parallel to declivity, broadly emarginate behind, posterolateral angles produced into long forceps-like processes; disc smooth, subshining, stria punctures almost obsolete. Declivity steep, excavated; basal margin subacutely elevated, armed by three small, pointed denticles one each at interstriae 1, 2, and 3; lateral margin subacutely elevated, bearing just below middle of declivity a very large, cylindrical, blunt spine 3.5 times as long as its basal width, directed caudad, below this spine lateral margin continues to apex of ventrolateral process; ventrolateral process subcylindrical, curving slightly mesad, its length measured from apex of suture equal to more than half width of elytra; posterior emargination very broad, deep, broadly U-shaped, very slightly deeper than wide.

MALE.—Similar to female except declivital spines slightly longer.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 18 paratypes were taken at the type locality on 11-VIII-66, at 30 m, No. 85, tree limb, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Amphicranus spinosus, n. sp.

This species is distinguished from *spinescens* Wood by the larger size, by the finely punctured pronotal disc, and by the more brightly shining elytra.

FEMALE.—Length 2.7 mm (male paratypes 2.8-3.0 mm), 4.0 times as long as wide; color brown.

As in *spinescens* except posterior areas of pronotal disc reticulate, with moderately abundant, fine, distinctly impressed punctures in both discal and lateral areas and elytra much more brightly shining.

MALE.—Similar to female except declivital spines slightly longer.

TYPE LOCALITY.—Rincon de Osa, Puntarenas, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and two male paratypes were taken

at the type locality on 11-VIII-66, at 30 m, No. 85, from a tree limb, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Amphicranus mucronatus, n. sp.

This species is distinguished from *fastigiatus* Blandford by the smaller size, by the very different female frons, and by the narrower posterolateral elytral processes of the male on which the spine at the level of the sutural apex is positioned equidistant from the lateral and mesal margins (not on the lateral margin as in *fastigiatus*).

FEMALE.—Length 2.7 mm, 4.0 times as long as wide; color light brown, pronotum and elytral declivity darker.

Frons convex, reticulate below upper level of eyes, shining above, punctures fine, moderately abundant, obscure on reticulate area; median fourth from epistoma more than half distance to upper level of eyes with a sharply elevated, low, oval, granulate area; vestiture inconspicuous. Antennal club transversely oval, slightly wider than long.

Pronotum 1.7 times as long as wide; as in *fastigiatus* except submarginal grooves and callus on anterior slope much more poorly developed.

Elytra as in *fastigiatus* except discal punctures slightly smaller.

MALE.—Length 3.0-3.3 mm; similar to male *fastigiatus* except antennal club slightly more broadly oval; anterior margin of pronotum more strongly, narrowly acuminate, process on its ventral surface almost obsolete; elytral declivity slightly less strongly explanate, lateral margins much less strongly elevated, denticles on basal margin much smaller, denticle at level of sutural apex in center of floor of lateral process (not on inner surface of lateral margin as in *fastigiatus*).

TYPE LOCALITY.—Cerro Punta near Volcan Chiriqui, Panama.

TYPE MATERIAL.—The female holotype, male allotype, and one male paratype were taken at the type locality on 11-I-64, at 1800 m, from a tree branch, by S. L. Wood.

The holotype, allotype, and paratype are in my collection.

Amphicranus acus, n. sp.

This species is distinguished from *fastigiatus* Blandford by the smaller size, by the different

female frons, by the more slender male pronotal process, and by the male elytral declivity.

FEMALE.—Length 2.5 mm (female paratype 2.5 mm), 4.0 times as long as wide; color light reddish brown, anterior parts of pronotum and elytral declivity sometimes darker.

Frons about as in female *fastigiatus* except reticulate to vertex, median area on lower half rather strongly elevated but not sharply defined, its summit narrowly flattened and granular. Antennal club obscurely subtriangular, 1.3 times as wide as long.

Pronotum 1.8 times as long as wide; as in *fastigiatus* except grooves and submarginal ridges on anterior slope more pronounced. Elytra as in *mucronatus* Wood.

MALE.—Length 2.5-2.8 mm; as in male *mucronatus* except granular area on frons narrower, extending to upper level of eyes; lower surface of pronotal mucronate process with a rather strongly developed, conical tubercle directed ventrad; lateral margin of declivity slightly higher, a coarse denticle displaced just mesad of lateral margin at level of sutural apex, posterodorsal angle rounded and entirely devoid of a tubercle, sutural emargination much narrower.

TYPE LOCALITY.—El Laurel Experiment Station, 12 km SW Caracas, Venezuela.

TYPE MATERIAL.—The female holotype, male allotype, and three paratypes were taken at the type locality on 1-V-70, 1800 m, Nos. 457, 458, from a tree bole 13 cm in diameter, No. 513 in flight, by S. L. Wood. One broken male paratype is from Merida, Merida, Venezuela, 11-IX-69, 2000 m, No. 4, *Croton* bole, S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Paracorthylus mutilus, n. sp.

This species is distinguished from *conceisus* Wood by the smaller size, by the shallowly divaricate sutural apex of the elytra, and by the distinctive elytral declivity.

FEMALE.—Length 2.0 mm (paratypes 1.9-2.0 mm), 2.7 times as long as wide; color reddish brown.

Frons as in *velutinus* Wood except surface reticulate above shining epistomal margin. Antennal club 1.4 times as long as wide, apical segment only slightly modified.

Pronotum 1.1 times as long as wide; as in *velutinus* except surface reticulate, punctures very fine, much less closely spaced.

Elytra 1.4 times as long as wide, 1.2 times as long as pronotum; as in *velutinus* except declivity. Declivity subvertical, subtruncate, shallowly concave; lateral margins distinctly elevated, rounded, armed on middle third on median margin by two pointed tubercles, upper one slightly larger; sutural interstriae weakly elevated; posterolateral margin subacute at apex, suture weakly emarginate; surface rugose-reticulate; punctures obscure. Very minute setae moderately abundant on declivity, similar but less abundant on disc.

MALE.—Similar to female except apical segment of antennal club slightly shorter and more broadly rounded; anterior margin armed by eight serrations of moderate size; declivity more evenly concave, its margins weakly, subacutely elevated on more than lower three-fourths, upper margin armed by three pairs of small teeth on interstriae 1-3, lateral pair conspicuously larger, sutural apex more distinctly emarginate, sutural interstriae more distinctly elevated.

TYPE LOCALITY.—Fort Sherman, Canal Zone, Panama.

TYPE MATERIAL.—The female holotype, male allotype, and two female paratypes were taken at the type locality on 10-XI-57, at light.

The holotype, allotype, and paratypes are in my collection.

Paracorthylus concisus, n. sp.

This species is distinguished from *velutinus* Wood by the larger size, by the subconcave elytral declivity, with different armature in the

female, by the sparse pubescence, and by other characters.

FEMALE.—Length 2.6 mm (paratypes 2.3-2.6 mm), 2.6 times as long as wide; color reddish brown.

Frons as in *velutinus* except obscurely reticulate, shining, median carina extending from epistomal margin to median callus on lower third. Antennal club 1.9 times as long as wide, about intermediate in shape between *velutinus* and *mutilus*.

Pronotum 1.1 times as long as wide; as in *mutilus*.

Elytra 1.4 times as long as wide, 1.2 times as long as pronotum; as in *mutilus* except tubercles slightly larger and apex of suture entire.

MALE.—Similar to female except antennal club less elongate, its apex more broadly rounded; anterior margin of pronotum armed by eight serrations; declivity much more broadly, evenly impressed, margins on lower half more distinctly, more narrowly elevated but not angulate, sutural apex entire and bent slightly dorsad, two pair of tubercles on interstriae 3 displaced mesad from lateral margin, lower one at middle, upper one on basal fourth.

TYPE LOCALITY.—Moravia, Cartago, Costa Rica.

TYPE MATERIAL.—The female holotype, male allotype, and 14 paratypes were taken at the type locality on 11-III-64, 500 m, No. 473, from a cut tree 35 cm in diameter, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.